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NATIONAL PETROLEUM NEWS

SEPTEMBER 6, 1939

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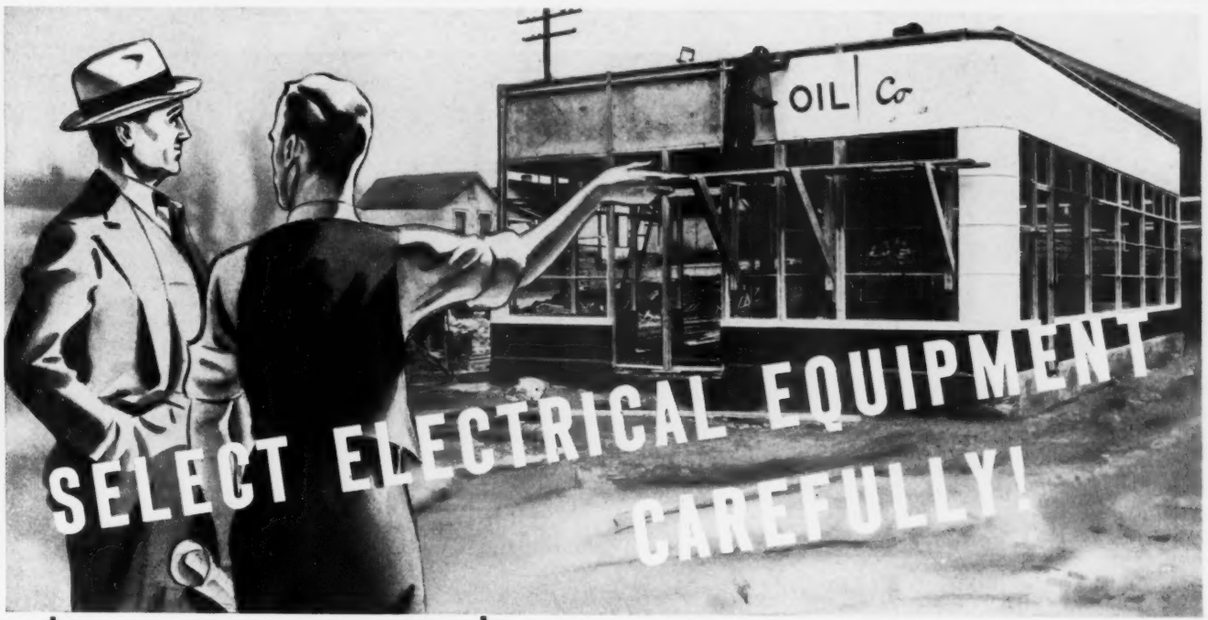

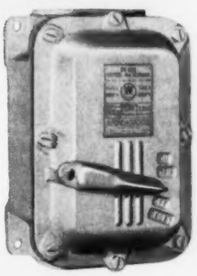

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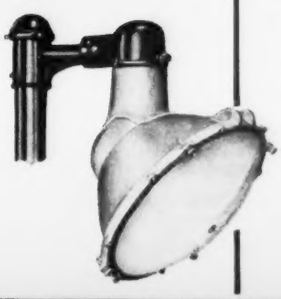

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A native son—C. P. "Doc" Watson—is president of the California Oil and Gas Association. He is vice president of Seaboard Oil Co. of Delaware and president of Valley Pipe Line Co.

Born in Santa Barbara, California, Mr. Watson got his practical experience in the oil fields of Mexico. Leaving there in 1925 he went to New York as assistant to the president of Amerada Petroleum Co. From 1927 to 1930, he was in the royalty business in Texas. Since 1930 he has been in charge of Seaboard's operations on the Pacific Coast. He is a member of the American Institute of Mining and Metallurgical Engineers and of the American Association of Petroleum Geologists.

National Petroleum News

VOLUME 31 WEDNESDAY, SEPTEMBER 6, 1939 NUMBER 36

Danville Jurors Find 'No Cause' To Act on Oil

N. P. N. News Bureau

CHICAGO, Sept. 5.—The federal government's latest investigation of oil marketing in the middle west came to an end Sept. 1 week when the grand jury at Danville, Ill., reported "no cause for action" and Judge Walter C. Lindley discharged the jury.

The grand jury convened in early June after the Department of Justice had made an announcement that the probe was to investigate to see if practices involved in the Madison oil cases had been continued.

Several oil companies, defendants in the second Madison case, sought to restrain the Danville grand jury, charging it was a "fishing expedition" to seek evidence for the government's case in the forthcoming trials. This second Madison case, involving jobber contracts, now has been postponed from the trial date originally set for Oct. 2.

The Danville grand jury, after the judge denied the motions, began taking testimony of oil company executives and called for data on jobber contracts back to the early 1930s, and recessed June 23. The jury reconvened Aug. 31, and reported to the judge late on Sept. 1.

Oil Industry Prepared to Meet Wartime Demands for Products, No Runaway Market is Expected

By W. C. PLATT, Editor

What will today's war mean to each individual man in this oil industry? How will it affect the industry generally, the big companies and the small companies and all their employes?

The more accurately every man can approximate an answer to these questions the greater the probability that the industry and the business of every man in it, will continue without disruption. And the more definitely an answer can be visioned by every man the better he can protect his business against future war developments, both here and abroad.

From a size-up of all the facts and with the history of the World War of 25 years ago as a guide, it would seem that the following conclusions—or assumptions—may be taken by the average oil man as well justified—

1—American and world consumption of petroleum products will NOT DECREASE, not even from the "shock" of the starting of the war.

2—American and world consumption of petroleum products will undoubtedly continue to increase, due to the normal growth in this country and plus a most probable increase in war demand for petroleum products.

3—There probably will not be any boom demand for petroleum products such as 25 years ago because in that war the automobile and truck had just started their big development; today their increase in use is fairly "stabilized."

4—Petroleum prices will—and they should—increase but this will be due more in the next few weeks and months to the general shut-down of crude oil in the Mid-Continent fields and to the more stringent enforcement of conservation measures by the oil producing states, than to any war demand.

5—While no official announcements have been made, it undoubtedly can be safely said that the oil industry—particularly the larger oil companies—will not permit any runaway petroleum prices. During the World War it was the policy of the larger oil companies, originated by themselves and then later approved by government, to keep all petroleum prices pegged at reasonable levels. It was, we believe, the only case of an industry through its own efforts preventing boom prices of its products.

6—According to present conception of what any possible demand of petroleum for country and war may be in the next few years, even though this country enters the war with soldiers, there are entirely sufficient known crude oil reserves in this country, actually proved by drilling, which, with only a reasonable amount of drilling, will easily take care of any such demand that may be made upon this country's resources.

7—There also is plenty of extra capacity and flexibility in American refineries to permit of supplying most

'SHOOO,' SAYS STATION OPERATOR AND THE WOULD-BE GUNMAN FLEES

N. P. N. News Bureau

CLEVELAND, Sept. 5.—Somewhere at large there is a chagrined would-be gunman, who probably turns a deep shade of pink every time he thinks of the bum's rush he received from 59-year old Asa C. Dilger, operator of a Cleveland service station, last week.

Mr. Dilger, five feet seven inches and weighing in at about 135 pounds, was deeply engrossed in balancing his station's books when the command came:

"Stick 'em up, or I'll plug you."

His thoughts snapped from gallonage, margins and net profits. He looked up into the business end of the 38, shakily held in the hand of a man about 25 or 30 years old.

Probably contemplating the fact that his Sunday dinner would give him indigestion if he lost the last several days receipts of $98, Mr. Dilger said "go ahead and plug me, but you don't get a cent."

With that the station man disdainfully pushed the gun aside and laid his 135 pounds against the six feet and 190 pounds of the would-be Jesse James and unceremoniously shoved him out into the station driveway.

Tripping over the station doorstep in his hastily propelled exit, the gunman, caught completely unawares, just stood in the driveway stupidly looking first at his gun and then at Mr. Dilger. After several seconds he turned and ran.

Commenting on his brief battle of nerves, Mr. Dilger said he has never seen a man look as completely befuddled as the would-be gunman after having been given the old "heave ho." He doesn't know himself what prompted his unusual action. "Life," he says, "is certainly worth more than $98." But it was obvious that the man was not experienced in the art of relieving people of money with a gun.

Being on the receiving end of a holdup is not a novel experience for Mr. Dilger, who had been the victim three times previously.

One of the robbers, he said,

(*Continued on page* 10)

any such war demand, at least with only such increase in capacity as can be easily built under stress of war.

In short, it would seem most evident, that there is NOT going to be any destroying or ending of oil's market, NO stoppage of supply, NO shortage, NO unwholesome or boom price advances—NO WAR BOOM IN OIL.

The oil industry and its products are necessities, not luxuries. The automobile and trucks also are necessities, and this country's better life today is too firmly built on these quick, cheap and easy means of transportation, to permit of their being shut down or destroyed.

The above are definite statements, especially for days such as these when the future of the world seems so much at stake. But these statements are based on facts and opinions of many oil men. The facts are printed in brief elsewhere in this issue. They are substantially the same as gathered and printed at greater length in the April 19th issue of NPN when war seemed to threaten.

* * *

FDR's Move on 'Profiteers' May Mask Effort at Control

N. P. N. News Bureau

WASHINGTON, D. C., Sept. 5.—The Roosevelt administration is studying a means of preventing "war profiteering," although this country has not become a party to the European war, and is proclaiming loudly its intention and hope of remaining neutral.

In his broadcast Sunday night the President opened the door to speculation on his "anti-profiteering" move when he said that "no American has the moral right to profit at the expense of his fellow-citizens or of the men, women and children who are living and dying in the midst of a war in Europe."

The intentions of the administration were further laid open Monday, when, after a cabinet meeting, Attorney General Murphy said he was studying new legislation to prevent "profiteering," added that the existing laws were "entirely inadequate," and said the President had instructed him to "take appropriate action."

Mr. Murphy's remarks were generally interpreted to mean that legislation will be drafted for presentation at the special session of Congress which almost everybody here believes will be called this fall.

Peacetime Price Curb

Apparently this unusual move to place a curb on prices in peacetime is based on the administration's fears that demands for war materials and essential commodities by "belligerents" will increase domestic prices unless they are pegged down in advance. Even though this country is "neutral," it is expected she will continue to sell such materials as oil and steel to such foreign purchasers as can come and get them—this, of course, means England and France, since England's control of the Atlantic is a foregone conclusion.

Despite the fact the President probably will have strong public sentiment in favor of his move to curb "profiteering," there still persists the suspicion that the New Deal sees in this wartime move in peacetime an opportunity to grab control of industry and place it under a rigid "economic planning" regime.

Such a move would fit in well with the views of the National Resources Committee (of which Sec. Ickes is chairman) with regard to government control of the natural-resource industries — particularly petroleum, coal and other "energy resources."

And while such a suspicion exists, it may not be so easy for the administration to drive through price control legislation while this country remains "neutral."

Just what "profiteering" is, or will be defined to be, under the anticipated legislative proposals, has Washington observers guessing.

At the present time the crude market has "firmed up" since the six-state production shutdown, and stocks are at their lowest level in 16 years. Should demand by England and France for our petroleum products increase, as is anticipated, it would undoubtedly cause a further strengthening of the market, and might possibly be reflected in a slightly higher consumer price of products. With the economic planners waiting to take over, such an increase might be used as ammunition for a "clamp-down" on the oil industry for "profiteering."

It is no secret that refiners have been losing money because of "ruinously low" tank car markets; unsettled conditions in these markets has contributed to demoralization of tankwagon and retail markets in many sections. So, any factor—such as a tighter crude market or increased export demand—may ultimately mean somewhat higher wholesale and retail gasoline prices. But such price advances might not necessarily raise many refiners and marketers to a profitable level, much less to "excessive profits."

The Commerce Department also has its guns trained on "profiteering," and is using as an argument against it the department's plans for expansion of Latin-American trade.

"We want to maintain the quality of our exports and keep prices on a level consistent, so far as possible, with peacetime conditions," according to Acting Secretary of Commerce Edward J. Noble. "It goes without saying that profiteering will be stifled as much as possible."

BULLETINS

Tanker Owners Withdraw from Charter Market

NEW YORK, Sept. 6. — With the outbreak of war in Europe, the tank charter market is upset to such an extent that rates in foreign trades could not be determined, according to reports in the trade here today.

Boat owners for the time being have withdrawn from the market, it was said, and long-time observers of the charter market said they would not even venture a guess as to what rates would prevail on new charters. War-risk insurance rates have changed four times in the past week, contributing further to the confusion.

* * *

TNEC Oil Hearings May Again Be Postponed

WASHINGTON—Oil hearings before the Temporary National Economic (Monopoly) Committee, scheduled to open Sept. 18, may be postponed, although there has been no official announcement. Six witnesses, who previously filed statements with the TNEC (see NPN Aug. 2), were slated for appearance the opening day.

Meanwhile, a supplemental questionnaire has been sent out to integrated oil companies asking for a breakdown of profit and loss statements in all branches in which they operate.

Among other witnesses who will probably be called, it was learned today, are Joseph Pogue, vice president of Chase National Bank, New York, and nationally known economist; M. Travis, former salesmanager for the Southport Petroleum Co., Texas City, Tex.; at least one representative of organized retailers; Paul E. Hadlick, secretary of National Oil Marketers' Assn., and H. A. Crouthamel, Baltimore retailer, who will represent the Maryland Assn. of Petroleum Retailers.

* * *

Holliday Favors 'Sound Conservation Law'

CLEVELAND—Sohio Corp., crude-purchasing subsidiary of the Ohio Standard, favors a "sound conservation law" for Illinois, ratable takings and proper well-spacing, according to a statement by President Holliday of the Ohio Standard. He made it clear, however, that Sohio opposes any provision restricting production to any arbitrary determination of market demand. See Page 14 for complete text of Holliday statement.

* * *

Michigan Curtailment Continues in Effect

LANSING, Mich.—P. J. Hoffmaster, state supervisor of wells, announced that the lifting of the restrictions in the Mid-Continent fields will not affect Michigan's proration law.

"Our first proration schedule effective last May," Mr. Hoffmaster said, "was based on a desire to cut down physical waste of the oil resources, while the second reduction effective August 23, was based primarily on Michigan's market conditions."

U. S. War Plans List Oil Among 'Essential' Materials

N. P. N. News Bureau

WASHINGTON, Sept. 5. — Petroleum is classed by the war planners—the Army and Navy Munitions Board—as an "essential material," as differentiated from "strategic" and "critical" materials.

Strategic materials are those "essential to the national defense for the supply of which in war dependence must be placed in whole or in part, on sources outside the continental limits of the United States, and for which the strict conservation and distribution control measures will be necessary."

Critical materials are described as those "essential to the national defense, the procurement problems of which in war, while difficult, are less serious than those of strategic materials because they can be either domestically produced or obtained in more adequate quantities or have a lesser degree or essentiality, and for which some degree of conservation and distribution control will be necessary."

'Essentials' Defined

Essential materials (which include oil) are those materials "for which no procurement problems in war are anticipated, but whose status is such as to require constant surveillance because future developments may necessitate reclassification as strategic or critical."

Each of the 72 materials included in these three lists (17 "strategic," 20 "critical," and 35 "essential") are described individually in a recently compiled list of "commodities considered problematical; their relation to our national security."

The discussion of oil in this list follows:

"An illustration of the relatively large but by no means inexhaustible supply of this material would be by comparison with our coal supply. It has been estimated that the nation's visible oil supply would cover the State of Ohio with a pond three-fourths of an inch deep, whereas the total supply of coal in this country, if spread over the same state, would approximate a depth of 76 feet. Although authentic available reports indicate an oil supply for approximately 12 to 20 years and our reserve has been estimated at a minimum of 12,000,000 barrels, our consumption rate is reported as approximately 1,000,000 barrels annually. It is therefore evident that we are gradually depleting our resources.

"The petroleum industry has marked over-capacity in both producing and refining. Efforts to control production have so far met with but partial success. Two important factors enter into the consideration of our future as to petroleum:

"(A) Proven deposits do not enlarge by sensible increments, if at all, and

"(B) The history of every oil field has been that too much oil exists until the day arrives when there is not enough. No one can state the true amount of oil reserves while any remains in the ground.

"The widespread use of petroleum and its products in our daily life is too well known to require enumeration.

"To the total of petroleum reserves must be added a consideration of (A) Oil from coal; (B) Shale oil; and (C) Mined oil.

"While none of these sources is impossible economically, their cost prohibits competition with surplus oil field production. Another frequently discussed possibility is the partial substitution of alcohol from waste agricultural products. While this subject has attractive points, the difficulties inherent in the problem are considerable.

Oil Substitutes Cited

"Oil substitute probabilities appear to lie in the direction of hydrogenated coal, first; mined oil, second; and shale oil, a remote possibility. The processing of coal by hydrogenation, which has perhaps passed the experimental stage is an important factor.

"In an emergency when the time arrives that an actual shortage of production is apparent, naval reserves exist in considerable quantities for purely military use."

California Tax Hike Urged

LOS ANGELES, Sept. 2.—A proposal to boost the California state gasoline tax two cents a gallon (making it 5 cents) to finance highway improvements was recommended by Larry Barrett, chairman of the State Highway Commission, in San Francisco the past week.

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European War will Increase Demand for U. S. Oil

War Needs will Dent Inventories, More than a Dent If U. S. Enters

N. P. N. News Bureau

WASHINGTON, Sept. 4. — Now that the second world war has started—whether the United States gets into it or not—the importance of this country's petroleum supplies becomes paramount.

Although the U. S. may remain nominally neutral, there is little doubt that sympathies of the Administration at Washington—and a majority of the people—are on the side of the Allies of 1939, Great Britain, France and Poland. No legal obstacles now stand in the way of the Allies obtaining all the petroleum supplies, so vital in today's warfare, they need from this country. And there is little likelihood that any will be imposed.

Germany will be accorded similar treatment but, with the British and French navies controlling the Atlantic, there is a formidable obstacle in the way of Herr Hitler obtaining oil from the U. S. or any other country in North or South America.

There is a sharp difference of opinion as to amount of petroleum supplies for war purposes stored in the warring countries. Some observers hold that England, France and Germany have from three to six months' wartime supply, much of it hidden away in underground storage. Other observers, equally worthy of belief, contend that these countries (except, possibly, Germany) have not much more than one month's wartime supply.

In any event, the belligerent countries will need petroleum supplies and, France and England, at least, probably will look to the U. S. for much of their supplies.

Several months ago NATIONAL PETROLEUM NEWS (issue of April 19, 1939) made a detailed analysis of wartime demand for petroleum supplies from the U. S. It was then estimated that France and England in case of a war, with Germany and Italy on the other side, would take an additional 200,000 barrels daily above their normal needs from this country. This estimate was partly based on the assumption that Italy, fighting with Germany, probably could cut off Anglo-French supplies from Iranian fields via the Mediterranean. So far, however, Italy has indicated she will remain neutral.

In event that the U. S. should enter a war, military needs of petroleum supplies would increase by 800,000 barrels daily the requirements of crude oil in this country, according to the National Resources Committee's report a few months ago.

These were conservative estimates. Other calculations run considerably higher.

Unofficial observers here estimate that Anglo-French requirements will boost petroleum demand in this country by 20 per cent and, if the U. S. is drawn in, by as much as 60 to 70 per cent.

How Industry Will Care For Increased Demands

How is the American oil industry situated to care for increased demand due to wartime requirements?

From the standpoint of crude reserves available, the supply appears ample. With thousands of wells in many fields producing but a fraction of their potential capacity, it would be a simple matter to hike the crude output by a million or so barrels almost overnight. Additional wells also could be quickly drilled in existing fields and untapped proven areas.

Crude stocks, drawn upon heavily in the recent oil field shutdowns, have dropped to 246,982,000 barrels, which is about 70 to 80 days supply for our normal, peacetime needs. About three years ago, the Bureau of Mines estimated that the minimum working stocks of crude were between 200,000,000 and 250,000,000 barrels (even peacetime needs have increased considerable in the past three years).

Of the total crude stocks in the U. S., more than half is held by a dozen companies (not including the stocks of several of the largest companies), it was disclosed at a hearing in Austin, Tex., on Aug. 28 (See NPN, Aug. 30).

These facts lead some oil industry observers — especially those representing the production branch—to the conclusion crude stocks today are below a prudent economic level, especially in view of increased wartime demands on the American oil industry, even if the U. S. does not join in the hostilities.

Major company representatives testifying at Austin, however, generally indicated—even prior to the outbreak of war—that their crude stocks were as low as they desired. So, it is reasonable to expect that increased crude demand due to the war will come from current production.

With the prospect of increased demand for motor fuels from the Allies, U. S. gasoline stocks do not loom nearly so "excessively" large as some economists contend (especially since the Austin hearing and the shutdown period indicated what a large percentage of gasoline stocks are held by the major companies). Gasoline stocks on Aug. 29—finished and unfinished—totaled 73,475,000 barrels which is equivalent to between 40 and 50 days supply for *normal, peacetime demand.* The immediate prospect of increased exports of gasoline to the Allies, of course, reduces the estimated days' supply in storage.

Should the U. S. enter the war (a possibility that cannot be discounted, no matter how much we may deplore it), there would be a tremendously increased demand for fuel oil supplies for our navy (virtually all navy ships are oil burners), gasoline for mechanized military units and aviation fuels aircraft of the Army, Navy and Marine Corps—not to mention the fuel requirements of war industries and transportation facilities.

Unlike nearly all other nations, the U. S. government—so far as is known—has not stored up petroleum supplies against possible wartime needs. The Army and Navy buy their peacetime requirements on a virtual hand-to-mouth basis, taking deliveries from oil companies as needed for maneuvers and stand-by duties.

So far as is known, the government is neither building nor leasing storage capacity, nor earmarking for war supplies storage products held by refiners or other private groups. One possibility is that, through secret agreements with the holders of large storage, military authorities may have taken steps

Resources Committee May Be War Industries Unit

N. P. N. News Bureau

WASHINGTON, Sept. 4.—Opinion that the National Resources Committee (which made the most recent report urging federal control of the oil industry) may become a part of the War Industries Board in time of war, administering oil, gas and other natural resources, was expressed by Interior Secretary Ickes at his latest press conference.

Exports of Principal Oil Products in Bulk from U. S. To England, France, Germany from 1934 through 1938

(Figures in thousands of barrels, except grease, in thousands of pounds)

	1934	1935	1936	1937	1938	Change In 5 Years
To England:						
Crude	....	411	160	753	153	....
Gasoline	3,946	4,326	3,593	4,639	8,750	+122%
Kerosine	2,174	739	936	1,274	1,540	— 29%
Gas Oil & Dist.	1,881	1,320	1,101	2,068	3,729	+ 98%
Resid. Fuel	190	151	189	379	497	+162%
Lubricants	1,705	1,852	2,054	2,452	2,319	+ 36%
Total Above Products	9,896	8,799	8,033	11,565	16,988	+ 72%
Grease, Lbs.	12,908	14,702	11,906	10,609	6,360	— 51%
To France:						
Crude	10,204	10,348	7,463	10,066	16,743	+ 64%
Gasoline	1,610	2,301	815	1,744	2,864	+ 78%
Kerosine	86	....	....	....	4	— 95%
Gas Oil & Dist.	463	66	104	978	86	— 81%
Resid. Fuel	....	....	....	....	153	....
Lubricants	805	527	477	392	421	— 48%
Total Above Products	13,168	13,242	8,859	13,180	20,271	+ 54%
Grease, Lbs.	3,957	3,899	3,884	4,316	4,307	+ 9%
To Germany:						
Crude	380	1,531	1,176	1,430	1,223	+222%
Gasoline	303	684	540	990	2,101	+593%
Kerosine	119	5	....	84	....	....
Gas Oil & Dist.	565	779	2,171	2,690	3,623	+541%
Resid. Fuel	....	....	264	....	....	....
Lubricants	938	911	1,099	1,121	984	+ 0.5%
Total Above Products	2,305	3,910	5,250	6,315	7,931	+244%
Grease, Lbs.	8,952	6,996	7,919	4,960	1,874	— 79%

to tie up large supplies in event of national emergency. But as far as can be learned no such steps have been taken. Rather, the policy has been to build up crude reserves underground—naval oil reserves—instead of storing up refined products.

In view of the possibility—remote as we hope it is—that the U. S. may enter this new world war, the amount of gasoline now stored in this country might appear small enough to cause some apprehension.

War Planners Know Facts

But rest assured that the war planning division of the War and Navy departments are aware of the situation and have made their procurement plans accordingly. Those plans, of course, are a military secret. But some rather obvious deductions can be pointed out.

With only a few thousand barrels of gasoline and other products stored here and there for peacetime needs, U. S. military authorities in event of our entering a war probably would immediately requisition large stores of all essential petroleum products, besides earmarking as much of current refinery production as they deemed necessary.

No one knows (except the war planners, and they keep it confidential) what would be our wartime requirements of gasoline, fuel oil, lubricants and other products. But, in view of present stocks, such demands might make quite a dent in current supplies available.

War needs of the military establishments and of essential war industries and transportation would come first. Stocks in the most accessible storage would be taken first. And it would make no difference that this might deplete supplies for civilian purposes in that or other areas.

That brings up the matter of a possible shortage of petroleum products for civilians in some areas—unless refinery capacity could be stepped up to meet the wartime demand.

Daily refinery "operating capacity" in the U. S. on Jan. 1, 1939 was 4,000,000 barrels, according to the U. S. Bureau of Mines. Of this total, 575,000 barrels capacity was shutdown. An additional 150,000 barrels capacity was in the process of being built. Of the shutdown capacity, between 160,000 and 200,000 barrels was said to be in "bad shape."

So, assuming that the refinery capacity building on January 1, last, has been completed, it means that the refinery capacity which could be put on stream overnight is something less than 4,500,000 barrels — more probably about 4,000,000 to 4,200,000 barrels (as was estimated by NPN in its "oil and war" story of April 19). Current refinery operations for normal, peacetime needs was running near 3,500,000 barrels daily before the German army invaded Poland last week. Thus, crude runs could be stepped up 15 to 20 per cent in an emergency. Also, additional refinery capacity could be erected in a comparatively short time. There would be no question of obtaining this much additional crude from current production.

Perhaps there might be a period at the entrance of the U. S. into the war when gasoline would have to be rationed to civilians (during the world war there were "gasolineless Sundays" in the territory east of the Mississippi). If so, this "shortage" would probably not last long.

After military authorities had requisitioned sufficient stocks to build up their supplies and fuel needs of essential industries and transportation facilities had been taken care of, the increase in crude runs and newly-built refinery capacity would probably take care of civilian needs as well as military requirements.

Or again, there might be no need for "rationing" gasoline. As stated before, no private citizen knows what the wartime requirements are of Uncle Sam's military machine. When and if the dread day of our entering the war comes, there may be sufficient storage of petroleum products on hand to cushion the shock. With war now raging in Europe and our prospective allies needing petroleum supplies, U. S. military authorities may take the precaution of "suggesting" that the oil industry to step up its runs to stills to build up inventories. Again, this country might follow the lead of other nations and accumulate a "stock pile" of petroleum products ahead of time.

Neutrality Law Does Not Bar Oil Shipments to Any Nation

N. P. N. News Bureau

WASHINGTON, Sept. 5.—American oil exporters may continue their "business as usual" with any and all foreign nations, although President Roosevelt tonight invoked the mandatory provisions of the Neutrality Act.

This act makes it the President's duty, when he recognizes a state of war in existence, to embargo shipments of "arms, ammunition and implements of war" to the belligerent countries.

The embargo proclamation lists the materials which it is unlawful under the act to export. Oil is not among these. Since there is no other neutrality legislation on the books now, it appeared tonight that exports of oil would be unhampered in any way—at least by any Washington action at this time.

What may be done later is, of course, unpredictable, but as long as England controls the Atlantic, and this country's sympathies are overwhelmingly with the Allies, the "free export" of petroleum and its products may be expected to be kept open. It is regarded as extremely unlikely that many German tankers could come to the United States for cargoes and return through the English-controlled Atlantic.

On the other hand, there is no U. S. restriction on American tankers going to Germany, as well as to England, France, Italy, Cape of Good Hope, or wherever they will, with cargoes.

Germany Cuts Takings

However, Germany has been obtaining decreasing quantities of U. S. petroleum products in recent months, in her effort to become independent of outside sources, and the likelihood of any increase in purchases of U. S. oil and products great enough to have military importance is considered remote.

It seemed significant today, though, that the new neutrality proclamation was unaccompanied by a Presidential statement like the one made at the time of the Italian-Ethiopian proclamation, which said in part: "In these specific circumstances I desire it to be understood that any of our people who voluntarily engage in transactions of any character with either of the belligerents do so at their own risk."

Earlier today (Sept. 5) the President issued another neutrality proclamation, concerned not with the Neutrality Law of this country but reciting the acts prohibited by international law in the case of a nation maintaining a neutral position.

Among these were prohibitions against sending fuel, arms, ammunition, etc., from the United States to a warship of a belligerent outside the limits of the country, and selling any fuel, provisions, etc., to a belligerent warship in a U. S. port without "written authorization of the proper authorities of the United States."

Even when authorized to sell fuel to such belligerent warships, the quantity so sold must be based on the economical speed of the vessel to the nearest port of her own country, plus 30 per cent additional for "eventualities."

The proclamation defined ships of war as all vessels "operating under public control for hostile or military purposes."

The arms embargo provisions of the neutrality law were reluctantly invoked by the President, who sought unsuccessfully at the last session of Congress to have them repealed. Repeal of the embargo would make United States' activities as a neutral in wartime entirely subject to international law (as they are now except in case of arms, munitions, etc. to belligerents).

There is no legislative change contemplated by the administration, so far as is known, which would have any effect upon the shipment abroad of petroleum and its products, although it is thought likely that the President will call Congress back to Washington before time for the next regular session (Jan. 1) and ask it to repeal the embargo provision and possibly enact some other type of neutrality law.

Origin of Oil Imports Into United Kingdom, France and Germany in 1938, including Crude, Gasoline, Kerosine, Gas Oil, Fuel Oil and Lubricants

United Kingdom (Thousands of bbls.)

Country Exporting	1938
U. S.	16,065
Venezuela	3,968
N. W. I.	30,752
B. W. I.	5,946
Iraq	4,058
Iran	17,910
Roumania	2,947
East Indies	681
U. S. S. R.	2,283
Mexico	1,553
Peru	625
TOTAL from above countries	86,788

France (Thousands of bbls.)

Country Exporting	1938
U. S.	20,876
Venezuela	4,746
Colombia	2,966
Ecuador	338
Peru	2,602
Cen. America	1,040
Iraq	23,445
Iran	830
Roumania	1,872
East Indies	220
U. S. S. R.	739
TOTAL from above countries	59,674

Germany (Thousands of bbls.)

Country Exporting	1938
U. S.	8,891
Mexico	3,063
Venezuela	1,896
Roumania	3,646
U. S. S. R.	562
Iran	1,425
Peru	1,046
N. W. I. and other America	10,680
East Indies	1,510
TOTAL from above countries	32,719

U.S. has Most Oil Tankers, Great Britain Most Tonnage

N. P. N. News Bureau

WASHINGTON, Sept. 5.—Ten oil tankers were under construction or contract in U. S. yards on Sept. 1, American Bureau of Shipping reports, and eight oil barges were also being built.

According to latest figures issued by Lloyd's of London only five tankers were being built elsewhere in the world during the first quarter this year. Lloyd's reported building of one tanker in Danzig, one in Germany, two in Holland and one in Japan, and at the same time stated that six tankers were being constructed at that time in U. S.

Number of Tankers

The total number of tankers registered for all countries by Lloyd's register in the middle of 1938 was 1655, with Great Britain owning 410 and the U. S. 418. Since then the U. S. has launched several more tankers.

The total number of tankers registered when the World War broke out in 1914 was 366.

Today the average speed of oil tankers is said to be 12 to 13 knots an hour and the fast new tankers will do better than 19 knots. In 1914 the average tanker speed was between 9 and 10 knots.

Tankers By Tonnage

Country	Gross Tonnage
Gt. Brit. & Dom	3,013,687
United States	2,758,642
Norway	1,972,469
Holland	561,946
Panama	450,261
Italy	380,488
Japan	345,849
France	241,896
Germany	202,221
Sweden	144,899
Other countries	643,322
Total 1938	10,715,680
Total 1914	1,478,988

Pennsylvania Lube Market Is Most Active in Years

CLEVELAND, Sept. 6.—Pennsylvania lubricating oil markets today are slightly dizzy under the impact of a mad war scramble. The threat of war over the past few weeks brought what some observers described as the most active period of buying since the pre-lubricating oil tax days in June, 1932. Today, with war in Europe an actuality, refiners are confronted with new factors—shortage of ship space and high cost of war-risk insurance.

Bright Stock Exports

During the two weeks preceding hostilities, approximately 60,000 barrels of bright stock were said to have moved from the Pennsylvania field to the eastern seaboard for export. Shipping instructions in some instances could not be complied with due to the scarcity of tank cars, it was said.

Demand for neutral oils has been heavy, reports indicate, but, as in normal times, the export call for bright stock has been about two to one as compared with neutrals.

Several refiners who ordinarily are on the look-out for a market for their products now say they are refusing to quote on large inquiries. Export shipments have been practically at a standstill since the outbreak of the war and some refiners say they are faced with the choice of selling to brokers or holding their material.

Reports from some buyers also tend to confirm the tight situation on Pennsylvania lubes. One buyer, a compounder, who said that in the past he had always been able to buy for future delivery at "today's" price, reported that he now couldn't buy on that basis. The best he could do was "market date of shipment," and then he wasn't sure that he would get delivery when needed, he added. Another buyer said he was unable to obtain material even against his contract with one refiner.

Several refiners said they had refused offers to buy bright stock at as much as 2.5 cents above the quotations reported by the few refiners who apparently were willing to take care of their regular customers at the quotations they reported.

The inventory position on Pennsylvania bright stock and neutral oil improved considerably in the first seven months of 1939. Latest figures available are those for the end of July reported by the National Petroleum Association. As of July 31, the association reported stocks of Pennsylvania bright stock totaling 24,313 barrels as compared with inventories of 383,858 barrels on Jan. 1. Inventories of 180 vis. and higher neutral oils declined from 201,416 barrels on Jan. 1 to 133,113 barrels on July 31.

A. P. I. Public Relations Group To Meet At Atlantic City

NEW YORK, Sept. 6.—The Central Committee on Public Relations of the American Petroleum Institute will meet Wednesday, Sept. 13, at the Hotel Traymore in Atlantic City, in connection with the annual fall meeting of the NPA, it has been announced by W. S. S. Rodgers Chairman. The meeting will be held in the morning, to permit committee members to attend the addresses scheduled for the afternoon session of the NPA meeting.

Gulf Coast Refiners Feel Effect of Wartime Demand

By Teletype
N. P. N. News Bureau

TULSA, Sept. 6.—Active demand for petroleum products on the Gulf Coast was reported today as result of the European war crisis cargo movement, as indicated by demand for natural gasoline, were numerous, it was said. Supplies on the Gulf Coast were reported closely held. Export inquiries for all products were reported active.

Several 50-car sales of natural gasoline have been reported the past few days to Gulf Coast refiners who are apparently using a 10 to 12 per cent blend of natural in pepping up their cargo shipments. This is said to be somewhat below the usual 15 to 20 per cent blends of the past. Prices for grade 26-70 natural were still reported at 4 cents.

East Texas, North Louisiana and Arkansas refiners anticipated supplying a part of the export demand for petroleum if demand should exceed supplying at Gulf Coast refineries.

Inland refiners were more reluctant to offer their supplies in the open market at current prices. Should flow of East Texas, Louisiana and Arkansas products be diverted south, then inland Texas, Oklahoma and Kansas refiners may be called upon to supply markets formerly supplied from the near-Gulf Coast refining areas.

Government Price-Fixing?

Another factor considered by inland refiners is the possibility of eventual governmental control of petroleum prices.

At present relationship between crude and refined oil prices, refiners say that they are either losing money or "just breaking even." Some have indicated they would consider their position improved if prices for refined oil advanced to a level where there would be even a small margin of profit at present crude prices. Then they would be in better position to absorb possible advances in crude prices.

Refined oil product quotations for domestic shipments have failed to take their "seasonal dip" so far and have been reported holding steadily at unchanged levels. This was attributed to the bolstering effect—still somewhat intangible—of the European war, coming on top of the shutdowns.

'Shoo,' Says Operator Would-Be Gunman Flees

(*Continued from page* 5)

was a skilled performer, while the other two were "kids who don't know what they are doing with a gun in their hands."

In the other holdups, most of the money was in the station safe, and the total received was between $22 and $25. Hardly a lucrative undertaking, in view of its penalties of about 10 years as a guest of the state, he pointed out.

His four experiences, probably makes Mr. Dilger an expert on the proper etiquette when confronted with a gun in the hands of an un-introduced stranger.

About all you can do is turn over what you have without argument, he says. Funny advice, in view of his own shattering of the etiquette of the holdupee. However, he cautions operators to carry only enough money to make change—not more than $5 or possibly $10. All stations should be equipped with a safe, where the bulk of the receipts should be kept, he added.

War May Force Settlement Of Mexican Expropriations

By Teletype
N. P. N. News Bureau

WASHINGTON, Sept. 6.—A stiffening of the United States' demands upon Mexico for an early settlement of the oil expropriation situation was foreseen here today in view of the preparedness preparations which this country is spotlighting.

It is unlikely that Mexican oil supplies will be able to reach Germany in any volume (because of the English North Sea blockade, the Mexican declaration that it has no more oil to sell, and other factors). However, the friendliness of Mexico for Germany in the past may keep Mexico from selling to the Allies.

The Mexican declaration of a few days ago that the government had prohibited further commitments for deliveries of oil abroad may, in fact, be taken as an indication that this government has already let the Mexicans know that, in case war comes, it will be as advantageous to Mexico as to this country to stave off the dictators. It may be, of course, the Mexican reason that the entire supply of Mexican oil is now under contract.

Observers here feel, however, that an early settlement of the Mexican-American oil controversy is of strategic importance from a national as well as Pan-American defense standpoint.

Any strong demand on Mexico to return the properties to their American owners, or to allow the United States free rein to exploit them could, of course, result in a breach of the so-called "good neighbor" policy. But at the same time it is likely that such a breach might give the other Latin American nations the obviously essential "tip" that the good neighbor policy has a two-way operation, and cause them to refrain from reportedly contemplated seizures of American properties.

Texas 'Gas' Tax Receipts Up

AUSTIN, Tex., Sept. 5.—Gasoline tax collections for the fiscal year of 1938-1939 just ended, reached an all time high in Texas, Comptroller George H. Sheppard has announced. Collections totaled $51,643,875, a gain of $2,362,639. One fourth of the gasoline tax of 4 cents a gallon goes into the available school fund, one-half to the construction of highways and one-fourth to retire county and district road bonds.

Government and Oil Defense Both Appeal Madison Ruling

N. P. N. News Bureau

WASHINGTON, Sept. 4.—Briefs have been filed in the U. S. Supreme Court by both government and defendants asking a review of the circuit court decision at Chicago remanding the 17 defendants convicted in the first Madison oil case back for retrial.

The government's brief prays that the circuit court decision be reversed, and the defendants' brief holds that the circuit court should have gone farther than it did and dismissed entirely the defendants, rather than requiring a new trial.

Government's brief holds that "the evidence as to the marketing structure in the mid-western area is virtually undisputed. . . . (and that) during the period covered by the indictment and for several years prior thereto the defendant companies sold a substantial portion of their gasoline to jobbers under contracts which provided that the price to be paid by the jobber should be determined upon the basis of so-called tank car spot market quotations appearing daily in two trade journals, the *Chicago Journal of Commerce* and *Platt's Oilgram.*"

The government's brief urges that the high court find that the appellate court erred in holding that the trial court erroneously charged the jury that if it found that the defendants had the power to raise prices and that they combined for that purpose, as charged in the indictment, the restraint of trade was as a matter of law unreasonable and, therefore, unlawful; that the circuit court erred in holding that the *Trenton Potteries* case did not apply, in holding that the trial court failed to submit to the jury the question of the nature and extent of the effect of the combination upon competition on the spot markets and, particularly, upon spot market prices—and five or six other errors.

Defendants' brief, filed by Col. Wm. J. Donovan and other defense attorneys, holds that the government failed to prove the essential conspiracy allegations, and that the circuit court erred in sustaining the jurisdiction of the trial court, in holding that there was no fatal variance between the indictment and the proof, in sustaining the action of the Madison trial court in denying defendants several motions for directed verdicts of not guilty, in failing to rule that the district court should have granted petitioners' several motions for new trials, and in failing to rule that the argument of government counsel to the jury constituted reversible error.

California Standard Fights Probe Ruling

N. P. N. News Bureau

LOS ANGELES, Sept. 2.—Major California oil companies and several affiliated companies were digging into their files the past week for a mass of records, documents and other information asked by Government prosecutors in their current investigation of West Coast oil marketing practices.

However, attorneys for Standard Oil Co. of California, filed an appeal against a decision by Federal District Judge Paul J. McCormick denying motions by the oil companies to quash the "sweeping, oppressive and unreasonable" subpoena of company records. It was assumed the court would be asked for a stay of this decision, which, if granted would delay operation of the subpoena demands against Standard, until the appeal is heard.

California Harvests Bumper Crop of Tourists

N. P. N. News Bureau

LOS ANGELES, Sept. 2.—California tourist records reached an all-time high in July, when 236,564 motorists entered the state, according to the all-Year Club. This figure tops July, 1938, by 46.5 per cent.

Visitors this year, the head of Southern California's tourist organization said, are ranging the entire state, with resorts from the Oregon border to Southern California reporting heavy percentages of out-of-state business.

During 1939 to date, 808 018 motor tourists have reached California, an increase of 16.3 per cent over 1938.

A strategic advertising campaign, directed primarily at the mid-western states, in order to combat the New York World's Fair, was credited with this sharp increase.

Suit Attacks Louisiana Law

NEW ORLEANS, La., Sept. 2—A suit that may have an important bearing on the federal government's investigation of alleged "hot oil" production in Louisiana has been filed in federal district court by George Lilly, a Texas oil operator.

Lilly's petition attacks the constitutionality of the state's conservation law and alleges discrimination in the setting of allowable production from his well on a 23-acre lease in the new Eola field.

Should the attack on the law result in it being held unconstitutional, attorneys see a possible quashing of the federal government's indictments against former Gov. Richard W. Leche and Seymour Weiss of Louisiana and Freeman W. Burford of Dallas, Tex., since there then would be no state law which the men had violated, and the Connally "hot oil" law is operative only in connection with violations of the state regulations prepared under its conservation laws.

The federal district attorney here has virtually confined Burford, meanwhile, to the federal court territory at Dallas. He has sent fugitive warrants to a number of points outside that court's jurisdiction with instructions to the U. S. marshals to arrest Burford in the event he appears. It will be recalled that Burford won his fight against removal to New Orleans to face arraignment on the indictment.

Investigation of possible violations of the Connally law, meanwhile, have spread to Arkansas and Louisiana. A number of citizens in Columbia county, Arkansas, have reported to the federal district attorney that "hot oil" has been run from the Magnolia field to points in Louisiana and Arkansas. An investigation of the charges accordingly has been started.

$3,000,000 "Owed" Texas

AUSTIN, Tex., Sept. 1.—Lessees of 150,000 acres of university lands in Texas who obtained the leases under the act of 1917 (in effect until 1925) owe the state approximately $3,000,000, Attorney General Gerald C. Mann has ruled. The total is figured on the basis of $2 per acre cash payment and $2 per acre annual payment from the dates of the issuances of the leases.

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Politics, rather than War,

Is Oil Industry's most Serious Threat

By WARREN C. PLATT, Editor

While there is little doubt but that the oil industry will not suffer any decline in prices or volume, even from the first shock of the European War, there unquestionably lies before the industry some critical problems. Probably the most serious one concerns its relations with government, both state and national.

The importance of this government-relations problem cannot be exaggerated.

The speed with which the issues are being raised should be underestimated.

Decisions will have to be made on some phases of the problem at once for Congress will be called into early session, in all probability, to consider, among other things, the Roosevelt oil control and conservation bill as well as price control—or "profiteering" as the president calls it—for all industries.

Oil's peculiar position before the public, that it is an irreplaceable natural resource of the greatest importance in our daily lives as well as in our industrial and war existence, puts oil in an entirely different relation to the public than any other industry. In a nutshell the public has every moral right to see that this natural resource is recovered, handled and used in the way most beneficial for its civilization. And any lawyers to the contrary notwithstanding, if the public is sufficiently stirred, it will easily find plenty of law to do to oil what it thinks is necessary to protect its rights whatever they may be.

So far the oil industry has done as good a job in its relations with its public and government as any other group of men have done with their industries and as any other group would have done with the oil industry under similar circumstances. The oil industry has pioneered a new industry within our own lifetime, pioneered within the life of NATIONAL PETROLEUM NEWS a whole new science of chemistry and engineering in finding, producing and refining oil, to say nothing of setting up a most marvelous and efficient machinery of distribution. Hindsight suggests improvements but our foresight was equal to that of every other group of Americans.

Oil has gone through several critical periods of government relationship. The first big one was during the war of 25 years ago when oil ran its own affairs, with great skill, and with the least of government interference. Oil survived the days of the late code but not in too good a shape. It is now struggling with the difficult and delicate problem of "conservation" with which is embroiled a profitable price, taxes and politics.

This war brings our relationship to a critical point, whether the United States gets into it or not. The next session of congress will consider the Roosevelt bill for federal control to supersede state conservation and control of oil production. That bill is so drawn that it would seem to include control of refining which means a measure of control, at least, of marketing.

But in addition to "conservation" being a reason for more effort of government to control oil, there also will be the matter of price. Undoubtedly all industry will be threatened or subjected to some measure of price control, even though we do not actually enter the war. This administration, and rightly, has been planning what to do with American business and the American people in case of another war. Price control therefore is part of all plans. When it becomes necessary to allocate the productive capacity of American industry to war munitions in order to get enough of them, then it will also be necessary to have some form of price fixing; at least that was found necessary in the last war.

But in the meantime American business will undoubtedly want to be free to fix its own prices according to the needs of each business enterprise and according to business hazards, particularly the increased hazards, due to the war abroad.

So, while all right-thinking business men will join President Roosevelt in his condemnation last Sunday night of "profiteering," they may be well justified in viewing with some suspicion that reference of the President in the light of the record of the New Deal and as he, the next day, asked his attorney general to draw up a law on "profiteering."

All business, and the oil industry also, is struggling to come out of ten years of depression, years that sapped the strength of many corporations and ruined many more. Business can get out of a depression only through profits, and the deeper and longer the depression the greater must be the profits in order to put business on a sound basis.

To call any good profits that business and particularly the oil industry may now happen to get, "profiteering" would be doing business a gross injustice. Take the oil industry. It is just coming out of a bad period of little or no profits for many companies.

There has just been an upping of prices due to one of the most drastic and arbitrary uses of governmental power imaginable, the shutting down of the Southwestern oil fields under the name of "conservation" but which every one knows was done to save prices and help toward some much needed profits. To call any good profits that might now

come to the oil industry "profiteering" would be the rankest kind of an injustice to owners, employes and suppliers of equipment. Yet it is fairly safe to say, in view of the record that the New Deal has written against reasonable profits for business, that any profits from now on are quite likely to be labeled as coming from "war profiteering," especially with a national election coming on.

So oil, in this coming session of Congress, will undoubtedly receive double attention, not only because of its profits, if any, but also as something to be "conserved" by orders from the proposed new assistant to Secretary Ickes, as provided in the Roosevelt bill for federal control of oil.

What then for the oil industry?

The entire oil industry should endeavor to organize itself so as to be able to make the most effective fight against the chief threat, that of excessive, unwarranted and unfair government control.

While there can be dispute as to what those words define, nevertheless each man in the industry has some definition for what he does not want to have government do to his own business. If the industry thoroughly and intelligently discusses all degrees of control and has facts fully presented to it, it is hardly conceivable that the difference in degree between the man who wants the maximum of control and the ones who want a minimum will eventually be so very great. The more each group fights for its particular ideas, if the industry does break into groups in its thinking, the more each man will be educated as to the dangers of government control in principal, so that in the last analysis the groups will not be so very far apart. At all events they undoubtedly will be against a control that takes from the owners the operation of their businesses.

What will be best for the oil industry can come only from the hearty interest and earnest action of all individuals in the industry, both large and small. For, the only thing that will count will be numbers of American citizens who fight for their own businesses.

It is hardly to be expected that an industry containing so many hundreds of thousands of people and so many tens of thousands of business units, can be united behind a single detail or form of government relations. To unify the industry for or against a given bill should not even be attempted probably. But effort can be made to see that the whole industry is informed and aroused on the general proposition, and help can be given different groups to marshal their strength into effective size and effort. Perhaps the whole industry can come together with some degree of unanimity on some measures in a general congress?

This arousing of the whole oil industry is a job that naturally would fall to the American Petroleum Institute. The Institute certainly would be welcomed, it would seem, by all in the industry if it went from small group to small group and said in effect,

"Here is a great crisis in the life of the whole oil industry and in the life of your business. This crisis concerns whether you run your own business, and if so how? We want to urge on you that you study and discuss the entire subject of this industry's relation with government. We will be glad to provide speakers even on opposing phases of government association. We don't ask you to adopt any one particular view. You decide just what plan you may be for. At least make a thorough study of all the facts of government and business. If you do, we are not afraid of the final conclusion that the vast majority of oil men will come to."

Every oil association meeting this fall and winter should hear full and fair discussion of this major subject. Statesmen, economists, efficiency engineers, college professors and business men should appear and state their views, even some who are for drastic government control, so as to make sure of getting the entire story before the industry.

Effort should be made to reach large numbers of oil men. Present group meetings could be spoken to but these should eventually, for this particular effort, be consolidated into larger groups that their opinion can be registered more effectively. Wholesale oil marketers, producers and dealers particularly should be reached and aided to understand the subject and to meet and voice their opinions whatever they might be.

The big problem before the oil industry today is not educating the public as to how good it is, but to educate the oil industry itself. The top executives of the big companies and their associates and men down the line, need education as to the industry's big problems of government relations today just as much as the smaller companies in marketing and producing and refining.

There is no time to be lost. The problem of how much of a free industry will the oil industry be in another six months or year or two years is pressing, steadily and swiftly. Just as is the war across the Atlantic, pressing to new and unexpected developments every day.

It is a war that will probably destroy a nation or two. At all events, it threatens to destroy the freedom of business, particularly the freedom of the oil industry.

Around THE MID-CONTINENT

. . . By ALLEN S. JAMES

With the sweeping shutdown of oil fields still fresh in the industry's mind, Oil Editor Claude V. Barrow of *The Daily Oklahoman* has written an interesting story of how the term "waste" was defined and put into the first oil and gas conservation law ever written, the Oklahoma act of 1915.

George A. Henshaw, now general counsel for the Gas Service Corp. in Oklahoma City, was the man who had the term "waste" defined and put into the statute, according to Mr. Barrow.

"The prime legal question confronting the committee which was to draft the measure was how to word a law giving the corporation commission jurisdiction to regulate the taking of oil and gas from a common pool as between the operators," Mr. Henshaw pointed out o Barrow.

"We had witnessed such extravagant waste in the Cushing and Healdton fields," Mr. Henshaw is quoted as saying, "that the word 'waste' was the only basis which occurred to me upon which to predicate the right to regulate, and at the same time establish a basis and condition that would give the commission jurisdiction to act.

"Hence, we provided in substance, that oil taken from a common pool in excess of market demands constituted waste; that is, if the oil was stored, it would deteriorate. Hence, when oil was being taken in excess of reasonable market demand—a fact which must first be established—then, and then only, the commission had jurisdiction to act and control the amount of oil that could be taken from a common pool without waste."

* * *

• "I" Stands for Ickes

That "hot" oil investigating office being established in Michigan is just another example of the Secretary Ickes' ire, in the opinion of many oil men in the southwest.

They reach their conclusions in about this manner:

1. Michigan is a Republican state.

2. The Pure Oil Co. is the major producer in Michigan.

3. The Dawes family (which controls Pure Oil) and Ickes never got along any too well when Ickes was the political zealot in Chicago.

4. Michigan has not had, until very recently, any conservation law which would permit functioning of the Connally "Hot" Oil Act. If state authorities have a "hot" oil problem there, no one down here has heard about it.

5. There never has been an investigating office in such states as Oklahoma and Kansas and New Mexico, where daily production is far greater than daily output in Michigan. In fact, the Federal Tender Board in East Texas has been the only body enforcing the Connally law now for some time.

Thus it all adds up, say the oil men hereabouts, to a political move.

Incidentally, the middle initial of John I. Watson sent to Michigan from Kilgore, Tex to open the office is said to stand for "Ickes." He is a nephew of the Secretary of Interior.

Southwestern Oil Shutdowns End on Sour Note

Texas Commissioners Irk Compacters By 'Running Out' on Two-day Extension

N. P. N. News Bureau

TULSA, Sept. 5.—A distinctly discordant note was heard within the ranks of the regulatory authorities last week when the time came to lift the drastic shutdown of oil fields in six southwestern states.

The harmony evidenced when the various state officials huddled with the Interstate Oil Compact Commission and planned the sweeping production curb apparently was broken by the antics of the unpredictable Texas Railroad Commission.

The Texas commission's antics included:

Failure to keep the lid clamped as tightly on Texas production as other states had been led to believe was the case.

Failure to go through with its announced plan to extend the Texas shutdown two days, or until Sept. 1 which was the lifting date for shutdowns in Oklahoma, Kansas and New Mexico.

That the harmony was beginning to crack a little was evidenced at the called meeting of the compact commission at Austin, Tex. Aug. 28 when the Texas commission staged another of its crude and gasoline stocks surveys.

The regulatory authorities in New Mexico, Oklahoma, Kansas and Arkansas had clamped the lid on tight when they ordered the fields shutdown in their respective states. They had almost pleaded with the producers to "be good sports" and go along with the plan. They had turned deaf ears to pleas of some of the refiners to let them have a little crude.

Louisiana authorities had done far better than had been anticipated. They had confined exemptions to stripper wells and had shut in all the flush fields on the Gulf coast.

Other States Sit on Lid

These officials who had been sitting right on the lid in their respective states learned when they reached Austin that the Texas commission had granted exemptions to a large number of wells and that during the shutdown period production in that state had averaged approximately 228,000 barrels daily.

These officials then sat in the commission hearing and heard Commissioner E. O. Thompson, who as chairman had called the emergency meeting of the compact commission Aug. 15 at Oklahoma City when the shutdowns were planned, announce that any Texas independent refiner who needed crude would get it.

What these officials and the representatives of the compacting states said when they met in executive session at Austin was not made public. It is known, however, that some of them did not like the picture. They told their friends privately that in view of the record they were not inclined to go along with Col. Thompson's suggestion that the shutdowns be extended another 15 days.

Then came the announcement by Chairman Lon Smith of the Texas commission that the shutdown order would be extended two days, to 7 a.m., Sept. 1. His announcement was made at the close of the compact commission's executive session. Regulatory officials of other states who were present at that meeting said, however, they would go back home and consult with their fellow officials before making an announcement.

Smith-Sadler Jump the Gun

Before they could get home, however, Humble Oil & Refining Co. rescinded its crude price cut and the "other majority" of the commission — Chairman Smith and Commissioner Jerry Sadler —had announced the fields were to be reopened even a few hours before the time specified in the original shutdown order.

Chairman Smith said his decision to string along with Sadler instead of Thompson was due to the fact the commission had been besieged with requests from refiners to help them get crude so they would not have to shut down their plants.

This failure on the part of Texas to live up to the agreement, apparently reached at the

'Price-Fixing,' Says Ickes

N. P. N. News Bureau

WASHINGTON, Sept. 6. —Secretary Ickes regards the six-state production shutdown as a "price fixing device," which if resorted to repeatedly would result in an increase of the price to the consumer of refined petroleum products. He said that this "would not make the consumer so happy."

He was asked about the shutdowns at a recent press conference and told newspapermen that apparently the producers had achieved their end, restoration of crude prices, but added that there was some doubt in his mind whether similar action in the future would produce the same results.

Attendance at Texas Railroad Commission's "economics rodeo" at Austin on Aug. 28 was so large that it was shifted to the state capitol. Representatives of a dozen major companies were on hand to give intimate details about their crude and gasoline stocks positions

Dates and Results of Southwestern Shutdowns

TULSA—Following is a thumbnail sketch of the six-state shutdown of oil fields in the Southwest, together with effective dates and the curtailment in daily average production:

Texas—Effective from 7 a.m., Aug. 15 to 12:01 a.m., Aug. 30. Daily average production at time of shutdown, approximately 1,400,000 barrels. Production during shutdown approximately 228,000 barrels.

Oklahoma—Effective from 7 a.m., Aug. 16 to 7 a.m., Sept. 1. Daily average production at time of shutdown, approximately 400,000 barrels. Shutdown almost 100 per cent effective.

New Mexico—Effective from 7 a.m., Aug. 17 to 7 a.m., Sept. 1. Daily average production at time of shutdown, 110,000 barrels. Shutdown almost 100 per cent effective.

Kansas—Effective from noon, Aug. 16 to 7 a.m., Sept. 1. Daily average production at time of shutdown, approximately 170,000 barrels. Shutdown almost 100 per cent effective.

Arkansas—Effective from 7 a.m., Aug. 17, to Aug. 27 for all prorated fields; two fields being opened on Aug. 27; three on Sept. 1, and two on Sept. 4. Daily production 64,000 barrels, with 55 per cent shut in by order.

Louisiana—Effective from 6 p.m., Aug. 17, to 6 pm., Aug. 29. Daily production 250,000 barrels. Production from wells exempted from shutdown representing only small percentage of total production.

compact meeting to have the shutdowns all end on Sept. 1, left some of the states in a quandary. Oklahoma's shutdown had been scheduled for expiration Aug. 31. New Mexico and Kansas shutdowns were to be lifted Sept. 1. Louisiana's shutdown was scheduled for lifting the night of Aug. 29, but officials had indicated they would "go along with the others." Arkansas had lifted the shutdown the night of Aug. 27 on two fields, but would not lift it on three other fields until Sept. 1, and was to hold two other fields shutdown until Sept. 4.

When the Texas commission's flip-flop was announced, however, Louisiana went ahead and ordered its fields reopened as originally scheduled. Oklahoma stood by its agreement and delayed the opening until Sept. 1. Kansas and New Mexico also held to the original date—Sept. 1—for reopening of the fields.

* * *

U. S. Crude Stocks Decline 15,504,000 Barrels in Week

N. P. N. News Bureau

WASHINGTON, Sept. 5. — Crude stocks declined 15,504,000 barrels during the week ended Aug. 28, as a result of the shutdowns, the Bureau of Mines reports. This cut brought stocks on Aug. 28 to 246,982,000 barrels, the lowest point reached since the Bureau began collecting such statistics in 1923.

Decrease in stocks of crude from Texas wells accounted for more than half—8,994,000 barrels—of the total cut in inventory. Inventory of East Texas crude was lowered 3,266,000 barrels, while West Texas and Gulf Coast Texas crudes were cut 1,439,000 and 1,144,000 barrels, respectively.

Crude from other southwestern fields where the August shutdown order had been in effect, accounted for the most of the balance of the crop. Oklahoma crude inventory was cut 3,017,000 barrels, while Louisiana dropped 1,926,000 barrels. Stocks of Kansas and New Mexico crudes dropped 585,000 and 714,000 barrels respectively.

Crude from Indiana-Illinois district registered the only sizeable increase in storage, 294,000 barrels. "Other Appalachian" and Lima-Michigan crudes increased 32,000 and 11,000 barrels, respectively. Detailed figures appear on Page 20.

Crude Prices Raised By Southwest Buyers

N. P. N. News Bureau

TULSA, Sept. 5.—All the purchasers of crude in the southwest who followed Sinclair Prairie Oil Marketing Co. in cutting prices shortly before the middle of August had restored their schedules to former levels before the end of last week.

While a few of the smaller purchasers of crude, particularly the independent refiners, already had restored the cuts they made before the state regulatory bodies stepped in and checked further spread of the price cut by shutting down the wells, the Shell Oil Co., Inc., was the first major purchaser to set the stage for the price restoration.

The Shell company announced prior to the Aug. 28 statewide hearing of the Texas railroad commission at Austin that it was restoring the price, effective Sept. 1.

The big break came, however, on Aug. 29, the day after the Austin hearing, when Humble Oil & Refining Co. announced it was restoring its former price schedules and making them retroactive to Aug. 11, the day it cut crude prices in Texas, New Mexico and Louisiana.

Other major purchasers soon announced restoration of their former schedules, although the restorations in most instances were not retroactive to the day of the original reduction.

Representatives of some purchasers explained that the schedules had not been made retroactive in line with Humble's step, due to two factors (1) that they had not bought any crude due to the shutdown, and (2) because of certain contractural situations.

The Sinclair Prairie Oil Marketing Co. did not announce a restoration of its price schedule until Aug. 31. By that time all of the purchasers who had followed the Sinclair Prairie company's lead downward were back on a parity with the companies which had not met the cuts.

The Shell company did not wait until Sept. 1, however, to restore its price schedule, announcing immediately after Humble had made its restoration that the new schedules would go into effect Aug. 30.

When the price cuts were being made shortly before the middle of August the Shell company reduced East Texas crude price and at the same time placed it on a gravity basis instead of the former flat price. When the price restoration was announced Shell retained the gravity schedule for that field, and was met by some of the other buyers in the field.

Taking Naturals Cuts Gravity

For oil men who have not been in close touch with East Texas lately it appeared odd that Shell should put that field's crude on a gravity basis. The crude generally was considered to be of the same gravity regardless of the well from which it was produced.

The development of natural gasoline plants in the field, however, and the demand for the lighter natural gasoline fractions by the larger refiners on the Gulf coast has caused some of the natural plants to draw heavily on the gas from the wells to which they are connected.

Some of the plants have obtained up to 8 gallons of natural gasoline per thousand cubic feet of gas, according to reports. That means, in effect, that some of the wells have had such a "pull" on their gas that some of the light ends virtually have been "stripped" from the crude itself. This naturally has caused a drop in the gravity of the crude produced from those wells, and also caused a wider range in gravities of the oil produced than was the case when the field was in its prime.

To Pipe Etex Naturals

GLADEWATER, Tex., Sept. 1. —Construction has started on the 192 mile gasoline pipeline from the East Texas field to the Beaumont, Tex. plant of the Magnolia Petroleum Co. The line will be conected with a gathering system which will obtain the output from the natural gasoline plants of the Hanlon-Buchanan Gasoline Corp., the General American Oil Co., the Greg-Tex Gasoline Corp., the Sabine Valley Gasoline Co. and the Hercules Gasoline Co., all in the East Texas field. Daily capacity of the line will be 4000 barrels.

September Allowables Slashed in Southwest

N. P. N. News Bureau

TULSA, Sept. 5.—Daily allowable production in the six southwestern states which rerently experienced a 15-day shutdown period will be 12 to 15 per cent lower in September than it was in August prior to the shutdowns.

The September allowable orders already have been issued by the regulatory bodies in each of the states except Texas.

The Texas railroad commission has announced that it will not issue an order until after a statewide hearing set for Sept. 11 at Austin at which time data to supplement the Aug. 28 hearing will be obtained.

The commission has indicated, however, that it is contemplating a reduction of approximately 15 per cent in the Texas allowable, and that it probably will increase the East Texas allowable approximately 110,000 barrels daily in order to comply with recent federal court decisions.

The notice of the hearing for Sept. 11 stated that the commission will "advise all interested parties of the state of Texas its proposed solution and proposed order for the East Texas oil field."

That hearing on Sept. 11 accordingly is expected to be as largely attended as any in recent months, with the possible exception of the Aug. 28 hearing.

May Boost East Texas

If the commission boosts the East Texas allowable by 110,000 barrels daily and then undertakes to reduce other fields to bring the over-all output of the state 15 per cent under the Bureau of Mines' estimate operators in virtually all fields except those having stripper wells and those in East Texas are going to face the deepest cuts in their allowed production ever experienced in a single order. The operators accordingly are going to be on hand at the hearing to protect themselves from any threat of discrimination.

Texas oil men are puzzling, meanwhile, over just how the Texas commission is going to boost East Texas and cut the other fields.

Includes 8 Shutdown Days

This will mean that the commission, if it cuts the state allowable 15 per cent under the Bureau of Mines' estimate of market demand for Texas oil in September, has to cut approximately 212,000 barrels off the 1,408,000 barrels daily average allowable calculated on the basis of eight shutdown days a month.

This reduction will leave the commission with a state total allowable of 1,197,000 barrels daily. But if the East Texas allowable is boosted 110,000 barrels, a total of 488,000 barrels daily will have to come from that 1,197,000 barrels. That leaves 709,000 barrels to be distributed among the remaining fields in the state.

Marginal Wells Again

The commission in July compiled data showing that marginal and non-marginal wells outside of East Texas must have 611,375 barrels to meet the marginal well requirement. This would leave, therefore, about 98,000 barrels daily for distribution among the 60,000 wells producing outside the East Texas field. The commission has received several suggestions as to methods of handling the situation. One was a three-day-a-week shutdown, or a shutdown every other day. In some quarters it is believed the commission will seek to solve its difficult problem in one or the other of those ways.

But whatever the commission does there is almost certain to be considerable dissatisfaction and some observers are predicting a wave of court attacks with the marginal well law as one of the targets.

This law restricts the commission from prorating any well making less than 20 barrels a day from the 3000 foot depth; 25 barrels from 4000 foot wells; 30 barrels for 5000 foot wells and 40 barrels for greater depth wells. The East Texas marginal well production, therefore, is 20 barrels a day.

This means, in effect, that a well on a small tract in East Texas is permitted to produce 20 barrels while a well on a large tract in another field and drawing oil from three or four times the acreage also is held to only 20 barrels.

In view of the recent federal court decisions calling for well spacing and sand thickness to be considered as factors in determining allowables, many observers see the possibility that the marginal well law will be attacked directly in court.

The Oklahoma Corporation Commission has issued its September allowable order setting daily total at 384,950 barrels. This is a reduction of 43,050 barrels from the 428,000 barrels figure which had been in effect for the past 15 months. The allowable set is approximately 15 per cent under the Bureau of Mines' estimate of market demand for Oklahoma crude during September, which, however includes crude stock withdrawals.

The prorated pools in the state will bear the brunt of the cut. Stripper wells were granted a total of 155,000 barrels daily.

W. J. Armstrong, conservation officer for the Oklahoma commission, told purchasers and producers at the commission hearing last week that the September allowable is about what Oklahoma will have for the remainder of the winter.

"We have had some benefits from the shutdown," Mr. Armstrong said, "and we are not going to lose them now. I'm in favor of keeping the oil in the ground until there is a market for it."

The Kansas Corporation Commission cut that state's allowable 16,295 barrels or approximately 15 per cent under the bureau of mines' estimate of 166,300 barrels daily for September.

The new allowable in Kansas is 147,705 barrels daily as compared with 154,000 barrels in August. The reduction is made in the flush fields, 42,334 barrels being allotted to the 14,020 stripper wells and 105,371 barrels to the state's 5248 flush wells.

New Mexico cut its allowable production to 100,000 barrels daily, or 8700 barrels under the Bureau of Mines' estimate of market demand for that state's crude in September. The conservation commission announced export demand will be included in that top figure of 100,000 barrels daily. Production in August was approximately 104,000 barrels daily.

The Arkansas commission cut the state's allowable approximately 14 per cent, the September allowable being set at 58,294 barrels as compared with 65,000 barrels for August.

The total allowable production for September as set by Louisiana Conservation Commission is 235,475 barrels daily. This is a cut below the August allowable of 6,127 barrels daily, and approximately 20,000 barrels daily under Bureau of Mines estimate of market demand for Louisiana crude in September.

* * *

Tenders on 'Over-Quota' Oil Ordered by Federal Court

N. P. N. News Bureau

TULSA, Sept. 1.—The two companies whose federal court attacks upset the long-used plan of prorating the huge East Texas field have won their fight to establish the legality of the oil they have produced under the court orders.

Federal District Judge Bryant at Sherman, Tex. late last week ordered the Federal Tender Board at Kilgore to issue tenders for the oil that has been produced in excess of the Texas Railroad Commission's allowable order by the Rowan & Nichols Oil Co. and the Humble Oil & Refining Co.

The tender board had refused to issue tenders for the oil on the grounds the court orders did not show on their face that they applied to the tender board or that the board was a party to the suit.

Judge Bryant ruled, however, that the oil produced by the two companies was legal and ordered the board to issue tenders. The board promptly complied with Judge Bryant's order.

The two companies had obtained from federal district courts the right to produce 144 per cent of their allowables as established by the railroad commission, their contentions being that the railroad commission had not taken into consideration such factors as well spacing and sand productivity in determining the East Texas field allowable.

Armed with the court orders which granted the companies an increase of 44 per cent over the allowables given them by the commission, the companies applied to the federal board for tenders to move the oil. Their applications were denied and an appeal taken to the district federal court.

New Gasoline Plant in East Texas

GLADEWATER, Tex., Sept. 1.—General American Gasoline Co. has started construction of a $75,000 addition to its gasoline plant in the East Texas field near here. When completed the new unit will have a capacity of 10,000 gallons daily of propane and 17,000 gallons of natural gasoline.

Oil is Whipping Boy For Texas Politicos

N. P. N. News Bureau

TULSA, Sept. 5. — Oil men have been given several glances recently at how the industry in the Southwest, and particularly in Texas, may be used in coming months by politicians to further their own interests.

Just how far the industry will be ridden remains to be seen but indications now are the politicians are preparing to make it a long and hard ride.

One excellent glimpse was given top-ranking executives of oil companies who attended the statewide proration hearing at Austin, Tex., on Aug. 28.

Col. E. O. Thompson, member of the Texas Railroad Commission and chairman of the Interstate Oil Compact Commission, conducted the questioning of witnesses at that hearing. A list of 19 questions, a majority of them pertaining to past, present and contemplated inventories of crude and gasoline, had been given the executives in advance.

Col. Thompson did not stick closely to the questions in his examination of the witnesses, which, of course was his prerogative. But when he did go afield, many observers at the hearing obtained the definite impression he was getting on the records a lot of ammunition to be used when he officially announces he is going to run for governor again in next year's campaign.

It will be recalled that Thompson, when the drastic shutdown of oil fields was set in motion in protest against a cut in crude, called on his opponent in the past gubernatorial race, Gov. W. Lee O'Daniel, to call a special session of the legislature and have a 5-cents a barrel tax slapped on oil to meet the old age assistance payments.

'Here's a Nickel'

That suggestion brought down the wrath of the producers representing countless votes in Texas. Thompson then switched to the proposal to tax crude oil pipeline companies that amount per barrel handled, and adopted as his slogan, "Here's a nickel for grandma."

In the course of examining one witness Thompson said that the commission had as one of its purposes the task of trying to "make gasoline cheap to the public" and not crude prices high. The commission is charged, he added, with the duty of protecting the public's interest which is to have gasoline plentiful and cheap.

That remark caused many an eyebrow to lift, in view of the fact Thompson had been the prime mover in the shutdown plan to get the crude prices restored. Many observers saw in his remarks, however, the possibility that "The Colonel" and perhaps some of the other politicians were beginning to fear the shutdowns would cause motor fuel prices to advance with a resultant complaint from the public, something none of them were anxious to face on the eve of a campaign year.

Another indication that Thompson was getting some campaign fodder was the fact that he got into the record the financial reports of a number of major oil companies as carried in a trade publication. He asked the executive of each of these companies who testified if the report was correct. He dwelt at some length on the sizable net profits of each company for 1937 as compared with what was given as its "working capital." President K. S. Adams of the Phillips Petroleum Co. drew a round of applause from the audience when he said that he did not know exactly what was meant in that report by working capital, but that the company had over 300 million dollars invested and that the net profits as shown represented only a reasonable return on investment.

Sadler vs. Thompson

Another glimpse was given after the statewide hearing when Chairman Lon Smith of the commission, this time paired with Thompson, announced the Texas shutdown would be extended two days, only to join with Commissioner Sadler the next day in ordering the shutdown lifted immediately after Humble Oil & Refining Co. had restored the price of crude to its former level.

It is an open secret in Texas that Sadler is running against Thompson on almost every point. This leaves Smith as the balance of power on the highly important commission.

After Humble restored the crude price Thompson quickly issued a statement that the shutdown had been successful and that a "victory had been won over the Humble." He reiterated this statement in a radio address and also brought in once more his proposal for a tax on pipelines. He said in his radio talk that such a tax would drive from Texas forever the possibility of a sales tax, something the poor also would have to pay, in order to provide old age assistance.

Mr. Sadler's statement, contrary to his usual style, commended the Humble for making the restoration and making it retroactive to the date of the cut.

Still another glimpse is obtained in the move by the Texas attorney general in his investigation of oil companies to see if they are violating the state's anti-trust laws. The attorney general started first on the Humble, seeking to find if the Standard Oil Co. of New Jersey was doing business in Texas through Humble, The New Jersey company has been outlawed from Texas by a court decision. Sadler also had asked such an investigation be made.

Many observers see in these moves a little pre-campaign scrap among the politicians to see who will get to assail the successful and rich Humble company.

Dangerous Precedent Seen

Getting back to the shutdown of oil fields in the six southwestern states, many observers see in the success of that move the establishment of a dangerous precedent. The regulatory bodies, having succeeded in this initial effort to stabilize crude oil prices, might see greater possibilities for them politically in the manipulation of crude prices to suit their own ends and political aspirations. They might find it expedient to juggle crude output to bring higher prices and more tax revenue to the state.

Other observers doubt if such manipulations actually could be accomplished. It is believed in many quarters that the regulatory officials of the other states which inaugurated shutdowns now believe secretly that they were "fast talked" into a situation designed primarily to benefit the Texas authorities, and that the Texans were not as sincere in their efforts as they had indicated they would be.

It must be kept in mind also that the industry itself submitted to the shutdowns. It is no secret that the Texas shutdown order would have been blown clear out of the water had someone gone into federal court because there was too much evidence that the shutdown was ordered as a price fixing move, something the commission is prohibited from doing by law.

Michigan Gets 'Hot' Oil Office

N. P. N. News Bureau

WASHINGTON, Sept. 4.—A new federal investigative office will be established in Michigan under the Connally "hot" oil law, to see that no illegally produced oil is shipped out of that state.

Michigan's legislature passed a state conservation law at its last session (Act No. 61), which was approved by Gov. Dickinson on May 3. Since that time a commission of conservation has been set up and orders issued prorating production.

The new federal office at Lansing will be in charge of Examiner John I. Watson, who has been with Federal Tender Board No. 1 at Kilgore, Tex., for several years, and who was connected with the oil industry prior to entering the Interior Department, it was said.

The principal duty of the new office, Sec. Ickes said "will be to check petroleum production in Michigan to determine whether the oil is produced in accordance with the laws of Michigan and the orders of the commission of conservation of that state. Violations of the Connally Law will be reported by Mr. Watson to the Petroleum Conservation Division for my attention with a view to their submittal to the Department of Justice for action."

George W. Holland, director of the Petroleum Conservation Division, said there are no plans for establishment of a tender board in Michigan, and that the investigative office was set up to co-operate with state enforcement officials.

Elk Hills Consolidation To Be Asked by Navy

WASHINGTON, Sept. 4.—The Navy Department will urge Congress at the next session to consolidate the entire Elk Hills petroleum area in California into a naval reserve, contending that such legislation is necessary to protect the reserves from depletion by the privately owned wells.

The Elk Hill deposits lie in a tract about 13 miles long and 9 miles wide, embracing about 38,000 acres, of which the government owns a little more than 32,000, the Standard Oil Company of California about 4,500 and the remainder is involved in litigation to which the U. S. is a party.

Chances are Brighter For Illinois Oil Law

N. P. N. News Bureau

CHICAGO, Sept. 5.—Prospects that Illinois would join southwestern states in regulating crude production were brighter last week than at any time since the first oil conservation bill was introduced at a special session of the legislature last year. The state moved nearer proration after an exchange of correspondence between President Roosevelt and Gov. Horner and Lt. Gov. John Stelle, and announcements by Stelle and two producer associations of a change in their anti-proration stand.

Events of last week, with a restatement of views by some persons who formerly regarded as opposed to oil control, led to predictions that if a special session of the legislature is called this fall, as has been predicted, a bill restricting crude output would be enacted.

Such a bill, it is believed, would also include a severance tax on crude to provide funds for administration of relief. Such a new source of taxation—not a direct tax on consumers—might be politically effective in gathering support for a proration law.

The first definite move was by Lt. Gov. Stelle, who outlined a program he believed would be acceptable to all interests. It calls for a law to be administered by a non-partisan commission; the establishment of minimum allowables by statute sufficient to provide "reasonably speedy" return on drilling investment; the commission to set pool allowables above the minimum, based on market demand; common purchasing, with provision for ratable taking from all sources within the pool.

Nature of the correspondence recently exchanged between the White House and Gov. Horner has not been disclosed, although officials in Washington have expressed the hope that Illinois would enact a conservation law.

Ickes Comments

At a recent press conference Secretary of the Interior Ickes was asked if he thought oil conservation might be enacted at the proposed special session of the Illinois legislature. He replied he "hoped so", but added:

"So far we have been unable to get any co-operation on conservation from the state. It is a flush field and like all flush fields they don't give a damn what happens in other producing states."

Secretary Ickes added, however, that Gov. Horner was not to blame for the lack of co-operation, and adding that the Illinois governor had not needed urging on a conservation law but that other individuals and officials of Illinois had blocked it.

The lieutenant governor's ideas for a conservation program were outlined in a letter to Clarence T. Smith, of Flora, Ill., president of the Petroleum Ass'n. of Illinois.

The association had opposed proration, but in a letter to Stelle last week announced a new policy of favoring "reasonable" control, but not "stringent proration that the major companies and the other states want Illinois to have."

'Conservation vs. Proration'

Lt. Gov. Stelle's letter started off with the statement, "You know there is a vast difference between conservation and proration." He said he had repeatedly favored "any program based upon true principles of conservation," yet had opposed legislation which, he declared, would have handicapped oil development in the state.

The need for regulation, the Stelle letter pointed out, was the emphasized recent discoveries of new pools indicating of further expansion of output, already over 300,000 barrels daily, and which might go within a short time to over 400,000 barrels daily.

Outlining his program, which he said he thought would be acceptable to all parties, Lt. Gov. Stelle said he was aware of "a widely diversified opinion among those interested in this subject as to what might constitute a proper legislative program."

Illinois output, he continued, "has reached the stage where it is now producing the consumptive requirements of the state and contributing a small amount to general market demands in the midwestern area. It may be well to consider a program based upon true principles of conservation of this natural resource."

The second organization to change its position and seek conservation legislation is the Independent Oil Producers Ass'n. of Illinois. The organization urged Gov. Horner to call a special session to enact a "reasonable" conservation program. It also informed Lt. Gov. Stelle of its message to the governor and asked for his assistance.

Opposition to oil regulatory legislation at the last session was based on the fact that Illinois, which was producing about 125,000 barrels daily at the time, was not sufficient to supply Illinois demand for finished oil products in the state, and that to restrict output would benefit companies which had extensive holdings elsewhere and states who formerly provided most of the oil for the Illinois consumptive market.

Forecasts now are that any oil regulatory legislation that would be enacted would not be as stringent as the Summers bill, which was introduced in the 1938 legislature, and while it had the backing of the governor, died in committee.

Statement on Illinois By Holliday of Sohio

CLEVELAND, Sept. 5.—Following is text of a statement by President Holliday of the Ohio Standard stating that company's position regarding an Illinois oil conservation law:

"Our company has been and is in favor of a sound Conservation Law in the state of Illinois designed to prevent physical waste. Tremendous waste is now occurring through the excessively rapid drawing of oil and gas from many of the wells in various fields. Unless Illinois requires orderly withdrawal of oil according to sound engineering principles the ultimate recovery of its oil resources will be tremendously reduced.

"We believe that a statute based solely upon prevention of physical waste is all that is required because so far as we can see ahead there should be a market for all the oil in the state which is produced according to sound conservation methods.

"We are opposed to any provision in an Illinois statute which would restrict or reduce the amount of production in Illinois to any arbitrary determination of market demand and therefore feel that any such statute should have nothing in it in regard to market demand. Market demand has nothing to do with physical waste. We believe that a proration statute based solely upon physical waste will insure to producers and royalty owners the greatest possible return in that it will greatly increase the amount of oil ultimately produced. Also the elimination of the present wasteful production in certain fields should eliminate most of the cut price sales of this oil which are now going on.

"In the past two months from sixty-five to seventy thousand barrels per day of crude oil in Illinois has been selling at prices from twenty to thirty-five cents a barrel below our company's regular posted price. This represents about twenty-five per cent of the state's entire production. Also since our company is practically the only one who is purchasing Illinois Basin Oil, from independent producers except those who are buying at cut prices this volume of cut price crude oil represents about two thirds of all the oil which is being purchased in Illinois other than the royalty oil which is paid for by integrated companies who are producing and refining their own oil.

"In other words cut price crude oil in Illinois now constitutes about two thirds of all of the oil which is going to market in the form of crude oil. We also are in favor of the principle of ratable takings in each pool and have conducted our purchases on that principle. We also are in favor of proper well spacing."

California Oil Companies Fined for 'Overproduction'

N. P. N. News Bureau

LOS ANGELES, Sept. 2.—Enforcement of California's gas conservation law, yesterday cost seven oil companies a total of $20,865. Superior Judge Emmet H. Wilson presided.

The companies were accused of having violated an injunction limiting gas production from wells, in accordance with provisions of the state conservation law.

Following a report by court-appointed technical experts, who investigated the charges of gas wastage in the West Montebello oil field, injunction were issued to prohibit production in excess of recommended amounts. George D. Nordenholdt, State director of natural resources, instigated the suit.

The court found that in the case of some defendants, the overproduction was slight, and that there was apparently no intent to disobey the court's order.

However, in other cases, the court declared that overproduction has been so long and continuous that a total disregard of the court's decree was indicated. This asserted laxity was branded by the judge as "wilful, intentional, deliberate, and contumacious."

The seven companies fined were the Stanley Oil Co., $290; Clarence A. Doody, $190 on one well, and $110 and $55 on another well; La Merced Drilling Co., $570; Wood-Callahan, $3900 on 26 counts; West Montebello Oil Co., $3500; Montebello Reservoir Oil Co., $5250; and Montebello Wesco, Inc. $7000.

Thirty-five separate violations were charged against each of the last three companies listed above.

The same defendants were previously fined $3450 by Superior Judge Charles S. Ballard.

Because a bona fide attempt had been made by Hathaway Co., McVicar & Rood, and R. R. Bush Oil Co., to control output, and because overproduction had been slight, contempt citations were dismissed in these three cases.

Refiners Carry On In Rate Cut Fight

N. P. N. News Bureau

TULSA, Sept. 2.—Independent refiners of the Southwest have been invited to a meeting Sept. 15 to discuss the railroad freight rate situation and how they can obtain rate reductions which would put rail-shippers on a more competitive basis with those using other forms of transportation.

Meeting was called following the disapproval by rail executives of a proposal to reduce rail rates from southwestern points into so-called Indiana Standard territory. The turndown for the rate-cut proposal (SWFB Docket 17221), came at a meeting earlier this week of the Southwestern Freight Bureau and the Western Trunk Line Committee. The proposal was backed by Petroleum Rail Shippers Ass'n., composed of some 30 Mid-Continent refiners.

The rails' flat refusal of the rail-shipping refiners' plea for "competitive" rates has been reverberating around the Mid-Continent the past week, and may result in an airing of the oil freight rate situation before the Temporary National Economic (Monopoly) Committee, and an investigation of alleged action by the rails "knowingly or unknowingly" favoring the larger companies, who are charged with taking advantage of transportation to put independent refiners and jobbers out of business.

M. H. Champion, president of the Petroleum Rail Shippers' Ass'n. has appealed to the seven principal roads serving the Mid-Continent to establish lower rates between points along their individual lines in a "final effort to get the Southwestern lines to help us retain the present revenue to the railroads."

"You have stated," Mr. Champion wrote, "that the Southwestern lines could not reduce the rates without approval of the Western Trunk Lines. It is not necessary for you to have their approval," he contended, saying that if one railroad would publish these rates from origin points along its line to destinations on its lines "you know and we all know that all of the other lines serving the Western Trunk Line territory as well as the Central Freight Ass'n. territory would immediately make a similar reduction."

The 1916 level of rail rates, which the refiners are seeking to have established, would enable refiners to be competitive with pipeline-shipping refiners and at the same time net the railroads a profit of about 10 per cent on their investment, the refiners association contends.

Mr. Champion asked railroads to send their replies for individually reduced rates by Sept. 13, two days before the Kansas City meeting. In his letter to the rail executives he stated that rails have "admitted" one reason they do not reduce rates is that they fear "what the major oil companies will do" to them.

"We are very anxious to secure definite information of any actual business taken away from any railroad due to their equalizing the independent refiners' rates as we want to use this with other information we have before the powers in Washington if and when necessary," Mr. Champion said.

Meanwhile, one Oklahoma refiner reported he had received notice of midwestern jobbers' plans to cancel contracts totaling more than 8000 tank carloads of petroleum products yearly because, it was said, of the failure of refiners to obtain reduced shipping costs and the jobbers' ability to obtain supplies more cheaply by utilizing other forms of transportation.

Another Refiner's Experience

Another Oklahoma refiner reported that within three days after the announcement of the refusal to grant lower rail rates he had been notified by an Iowa co-operative that it plans to truck its petroleum supplies from western Kansas and Kansas City, cancelling its contracts representing some 11,000,000 gallons of produced now supplied by the rail-shipping refiner. One member of this co-operative has, within the past three days, ordered a transport truck and will begin trucking supplies from Kansas City on Sept. 10.

Another co-operative in Iowa reported to the refiner that it was cancelling its contract March 1, because the rail cut failed. The refiner said he stands to lose 3000 tank cars of petroleum business yearly which he helped to finance and build up.

Three Minnesota jobbers reported they were purchasing two transport trucks and would haul products from a marine terminal at Superior, Wis.

Another large jobber operating in three northwestern states has announced plans for transporting his supplies by truck and the cancellation of a contract with the refiner for a minimum of 1200 carloads of petroleum products this year, it was said.

The same refiner reported that a Minnesota co-operative, composed of 73 member companies, plans to build two terminals on the Mississippi River to take their supplies by barge.

A St. Louis jobber, discouraged by the failure to obtain lower rail rates, was said to have advised the refiner he would take immediate steps to obtain his supplies by barge and truck. This company has a yearly volume of 1800 tank cars.

An Indianapolis, Ind. jobber advised the refiner that he is negotiating for his supplies either by truck from Louisville or a Cincinnati water terminal or from Chicago, representing a saving of 0.75 to 1 cent per gallon, it was said.

In the light of this action by its customers, the refiner has urgently asked his company that immediate action be taken on plans to locate the refinery on the Mississippi River, with crude supply from Kansas, Illinois, or from Missouri, should production be discovered there.

Runs to Stills Drop Sharply

N. P. N. News Bureau

NEW YORK, Sept. 6. — For the second successive week, crude runs to stills at U. S. refineries were slashed 100,000 barrels on daily average, averaging 3,375,000 barrels daily the week ended Sept. 3, compared with 3,475,000 and 3,575,000 barrels daily during the two preceding weeks, respectively, according to a report on refinery operations compiled today by the American Petroleum Institute.

The stream of crude to stills at Texas Gulf refineries alone was cut 89,000 barrels on daily average. Last week this district also led the country in cutting operations, dropping 60,000 barrels from daily throughput. This total drop of 149,000 barrels in Texas Gulf runs during the two-week period brought operations of reporting refiners down from 95.6 per cent of capacity to the current rate of 79.9 per cent.

Despite the slash in crude throughput, refinery gasoline stocks remained relatively steady for this season of the year, dropping but 281,000 barrels. Production of gasoline was off 639,000 barrels during the week.

DEATHS

Fred M. Lege, Jr.

Fred M. Lege, Jr., vice president of the Magnolia Petroleum Co., Died in a Dallas, Tex. hospital Aug. 30 following an illness of several months. Although in poor health for some time he had remained actively in charge of the company's marketing division until recently and had just completed organization of the Western States Life Insurance Co., of which he was president, shortly before he was taken to the hospital.

A native of Texas, Mr. Lege started his business career as a messenger boy for the Western Union at the age of 12. He then became affiliated with a railroad company and to augment his income obtained a job as night operator for a telephone company. He was at various times connected with a number of utility companies. His first connection with the petroleum industry was in 1914 when he became president of the North Texas Gas Co. at Corsicana. Later he became executive vice president and general manager for the Lone Star Gas Co.

After a period as an independent operator in the El Dorado, Ark. oil field he joined the Magnolia company in 1930 as vice president and director.

* * *

George S. Bole

George S. Bole, 59-year-old wealthy oil man and pioneer civic leader of Tulsa, died at his estate near Tulsa Aug. 28 following a long illness.

Born in Pennsylvania where his father was active in the oil business Mr. Bole's first connection with the industry was with the South Penn Oil Co. of Pittsburgh. He moved to Robinson, Ill. in 1907 and six years later came to Tulsa.

* * *

Mrs. Mary S. Clark

Mrs. Mary Semlow Clark, widow of Maurice B. Clark, the first business partner of John D. Rockefeller, and step-grandmother of Walter C. Teagle, president of the Standard Oil Co. of New Jersey, died Aug. 29 at her home in Cleveland, O. at the age of 89. Death was caused by a respiratory failure.

Mrs. Clark's husband, who died in 1901, formed a partnership with Mr. Rockefeller in 1860 as Clark & Rockefeller, to deal in vegetables and grains. When the partnership split, Clark continued in the grain business, while Rockefeller organized his oil business.

Mrs. Clark is survived by seven nephews.

Latest Oil Industry Statistics

Trends of Basic Figures

	Sept. 2, 1939	Aug. 26, 1939	Sept. 2, 1938
Crude Production (Bbls. daily)	2,283,200	1,690,800	3,349,100
Crude Imports (Bbls. daily)	90,430	101,430	63,430
Crude Runs to Stills (Bbls. daily)	3,375,000	3,475,000	3,269,000
Gasoline Stocks (Bbls. total)	73,194,000	73,475,000	70,837,000
Gas Oil & Distillate Stocks (Bbls. total)	38,228,000	37,722,000	.....
Residual Fuel Oil Stocks (Bbls. total)	116,022,000	116,237,000	.....

Crude Oil Production for the U. S.

(American Petroleum Institute figures)

	Week Ended Sept. 2 Barrels	Aug. 26 Barrels	Aug. 19 Barrels
Oklahoma	6,500	165,000	433,300
Kansas	4,000	89,600	172,000
Texas	891,850	160,300	376,100
Louisiana	161,350	72,400	194,800
Arkansas	31,100	29,800	60,150
Illinois	310,250	310,000	293,400
Eastern (Ill. excluded)	100,000	96,000	99,000
Michigan	63,850	65,300	68,600
Wyoming	58,350	65,900	70,950
Montana	16,400	15,950	16,150
Colorado	3,900	3,950	4,150
New Mexico	34,450	4,200	65,750
California	601,100	612,400	626,200
Total U. S.	2,283,200	1,690,800	2,480,550
Crude Imports	90,430	101,460	85,570
Total New Supply	2,373,630	1,792,260	2,566,120

Weekly Changes in U. S. Crude Oil Stocks *

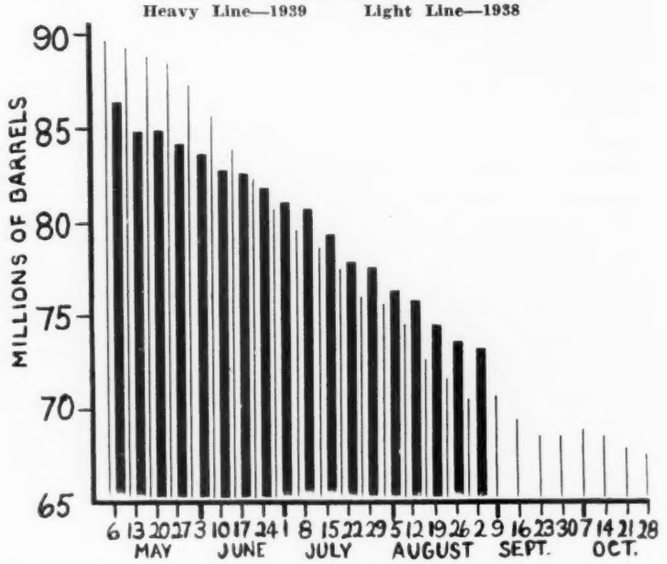
(Thousands of barrels)

Grade or origin	Aug. 12	Aug. 19	Aug. 26	Change from Aug. 19
Pennsylvania Grade	5,684	5,673	5,534	— 139
Other Appalachian	1,176	1,242	1,274	+ 32
Lima-Michigan	2,141	2,182	2,193	+ 11
Illinois-Indiana	14,873	15,209	15,503	+ 294
Arkansas	3,354	3,379	3,136	— 243
Kansas	6,391	6,547	5,962	— 585
Louisiana:	13,744	13,471	11,545	— 1,926
Northern	5,503	5,479	4,743	— 736
Gulf Coast	8,241	7,992	6,802	— 1,190
New Mexico	5,519	5,210	4,496	— 714
Oklahoma	70,355	70,007	66,990	— 3,017
Texas:	84,007	79,978	70,984	— 8,994
East Texas	19,249	18,250	14,984	— 3,266
West Texas	16,509	15,572	14,133	— 1,439
Gulf Coast	20,356	19,512	18,368	— 1,144
Other Texas	27,893	26,644	23,499	— 3,145
Rocky Mountain	18,962	18,655	18,588	— 67
California	38,513	38,302	38,199	— 103
Foreign	2,817	2,631	2,578	— 53
Total U. S. refinable	267,536	262,486	246,982	—15,504
Heavy in California	14,331	14,259	14,428	+ 169

*As compiled by U. S. Bureau of Mines.

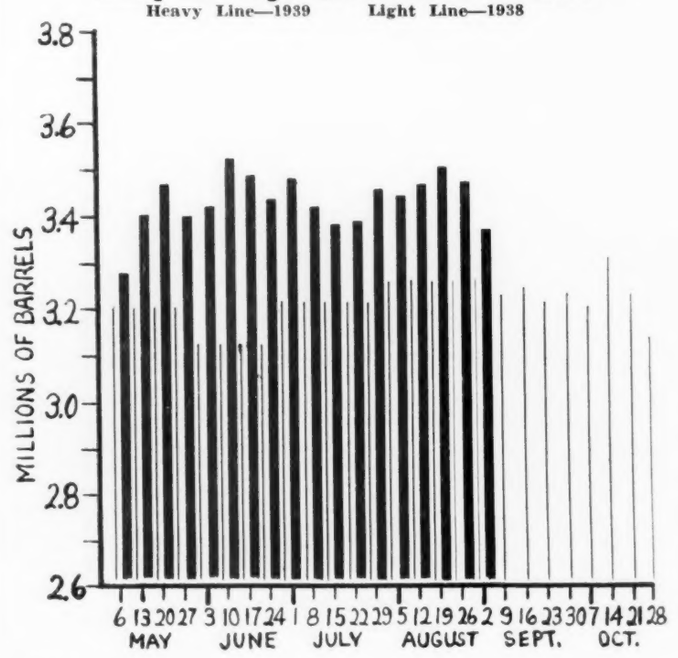
Total U. S. Motor Fuel Stocks

Heavy Line—1939 Light Line—1938



Daily Average Crude Runs to Stills

Heavy Line—1939 Light Line—1938



A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude to Stills Week Ended Sept. 2	Aug. 26	Per Cent of Reporting Capacity Operated Week Ended Sept. 2	Aug. 26	(a) Gasoline Production Week Ended Sept. 2	Aug. 26	Stocks Total Finished & Unfinished Motor Fuel (b) Week Ended Sept. 2	Aug. 26	Stocks of Gas Oil & Distillates At Refineries Week Ended Sept. 2	Aug. 26	At Terms. Trans. Pipelines Week Ended Sept. 2	Aug. 26	Stocks of Residual Fuel Oil At Refineries Week Ended Sept. 2	Aug. 26	At Terms. Trans. Pipelines Week Ended Sept. 2	Aug. 26
East Coast	552	578	89.8	94.0	1,577	1,556	20,206	20,230	6,420	6,106	6,614	6,422	5,903	5,917	4,181	4,150
Appalachian	108	112	84.4	87.5	439	427	3,144	3,198	228	227	73	74	393	382	.....	.....
Ind., Ill., Ky.	497	487	96.7	94.7	1,943	2,052	11,128	11,433	3,944	3,841	819	866	2,712	2,799	64	48
Okla., Kans., Mo.	240	260	70.2	76.0	(e)845	(e)932	5,938	6,167	1,593	1,613	37	46	2,909	2,891	.....	.....
Inland Texas	129	115	81.1	72.3	529	524	1,633	1,638	388	390	.....	.....	1,927	1,928	.....	.....
Texas Gulf	759	848	79.9	89.3	2,519	2,933	8,276	8,220	5,254	5,160	347	346	7,468	7,481	313	304
La., Gulf	130	137	81.3	85.6	351	344	2,126	1,934	1,001	1,172	25	27	1,817	1,830	352	395
No. La., Ark.	41	41	74.5	74.5	71	92	470	467	277	279	10	7	649	631	.....	.....
Rocky Mt.	45	47	70.3	73.4	235	212	1,103	1,110	119	116	.....	.....	561	559	.....	.....
California	526	502	70.6	67.4	1,495	1,494	14,165	14,058	8,336	8,301	1,928	1,924	61,203	61,252	23,145	23,245
Total Reporting	3,027	3,127	81.1	83.8	10,004	10,566	68,189	68,455	27,560	27,205	9,853	9,712	85,542	85,670	28,055	28,142
U. S. Total (d)	3,375	3,475			11,368	12,007	73,194	73,475	(d)28,375	(d)28,010	9,853	9,712	(d)87,967	(d)88,095	28,055	28,142
U. S. Total 9-2-38 (d)	3,269				10,996		70,837		28,976				118,163			

(a) Includes straight-run, cracked and natural blended.
(b) Includes stocks at refineries, in bulk-terminals, pipe lines and in transit.
(c) 12% of reporting capacity in this district did not report gasoline production.
(d) Estimated. U. S. Bureau of Mines basis.
(e) For comparability with last year these figures must be increased by stocks "At Terminals, etc." in California district.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

Dear Reader:

Five bills amending the patent laws were passed by Congress before its recent adjournment. This is not all of the tinkering with the patent law structure which will probably be done by the present Congress, however. Two more bills are slated to pass at the next session.

Perhaps the most important bill was passed by the Senate but refused by the House because of faulty wording. This bill (S 2688) will be on the Senate calendar for amendment as its first order of business when Congress reconvenes.

Object of this bill is to curb the abuse which has been practiced by some in the past of putting applications for patents in the Patent Office and keeping them there by one means or another for many years and thus attempting to prolong the 17-year monopoly which the law gives an inventor. The pending bill would extend the life of a patent to 20 years but make the date begin with the date on which application for the patent is filed.

★ ★ ★

C. P. Coe, United States Commissioner of Patents, appeared before the Temporary National Economic Committee, some months ago with suggestions for changes in the patent laws which he thought would help business. "It is my firm conviction," he said, "that among the most promising means of coping with disturbing conditions . . . (bad business and sociological conditions) are invention and science, the creation of new industries and the expansion of our manufacturing facilities."

Unlike some who have attacked the patent system Coe believes that inventors should have better protection than they have today when a patent is "an invitation to a dog fight." He believes that the inventor should not have to spend millions to defend his invention and also that he should be required to put his invention into commercial operation if he is to have public protection.

★ ★ ★

First patent law amendment passed by the present Congress had the effect of limiting the inventor. H. R. 6872 which is now Public Act 286, effective Aug. 4, 1940, reduces from two years to one year the period during which an inventor may make public use of his invention before filing a patent application. This will affect broadening of reissues from two years to one year.

H. R. 6873, now Public Act 287 effective Oct. 4, 1939, cuts the length of time occupied by interference by having all questions of priority settled at once by a board of three interference examiners. It eliminates appeals to the board of appeals. Losing applicant may go direct to the U. S. Court of Customs and Patent Appeals.

H. R. 6874, now Public Act 358 effective Aug. 9, repeals the old renewal statute but gives the Commissioner some discretion where good reason is shown. H. R. 6875, now Public Act 288, effective Aug. 4, 1940, limits to one year the former indefinite time for copying claims from a patent by amendment to an application.

To speed up patent office procedure H. R. 6878, now Public Act 341, effective Aug. 7, 1939, gives the commissioner power to require response to an official action to a shorter period than the present six months, but not less than 30 days.

★ ★ ★

In addition to the proposal to extend the life of a patent to 20 years but to start that life with the date of application another bill which the 76th Congress is expected to pass at its next session is S 2687 which would set up a circuit court of appeals for patents to be presided over by judges who have "demonstrated special aptitude for patent law." This new court would hear all appeals from U. S. district courts dealing with patent matters.

★ ★ ★

Doubt that a European war would build demand for oil products greatly was expressed recently by J. B. Aug. Kessler, joint managing director of Royal Dutch Shell Companies, in an interview at Helsingfors, Finland.

"I am not so sure that the demand for liquid fuel in the possible event of an international war would rise substantially above the peace time level," Kessler is quoted as saying. "All pleasure riding in motor cars would be abandoned, and war restrictions would be imposed on other fields where a heavy amount of fuel is used in times of peace."

Even without actual war news reports of the past few days seem to have substantiated this prophecy.

Very truly,

J. C. Chatfield

Managing Editor,
Refining Technology Edition

Oil Well Acidizing Solvents Used To Descale Refinery Equipment

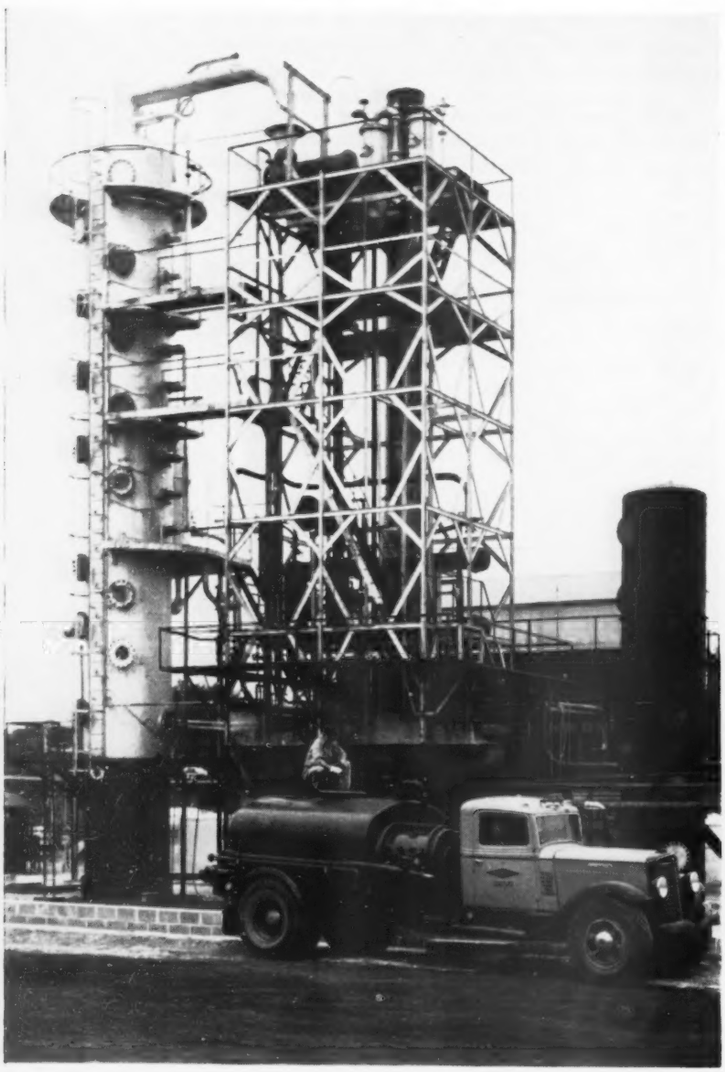
ABSTRACT

Iron and copper sulfide as well as metal oxide scales are being removed from refinery equipment by solvents which have been used in the oil industry for several years to promote oil production in settled fields. Boiler carbonate and sulfate scales also have been removed but hard carbon and coke thus far has not been successfully attacked by solvents.

SOLVENTS used in building up production of oil wells and the application service have recently found a place in the refinery in the role of cleaning agent and service for numerous pieces of equipment. Since January of this year a dozen types of refinery vessels have had various types of scales removed by the use of these solvents. Seven refineries owned by six different companies have been served.

The treatments are not a means of removing carbon or coke scales but are applied largely for the removal of iron and copper sulfide scales which are common in refinery equipment, as well as the metal oxide scales. Commercial applications to boiler plant equipment had already proved successful in the removal of carbonate and sulfate scales commonly deposited from hard waters, and for oxide scales.

Included among the vessels which have been de-scaled by the special inhibited material are bubble towers with reboilers, heat exchangers (both shell and tubes), water lines, oil pipelines, submerged cooling coils, vacuum condensers, diesel engine and pump cooling jackets, and, in the boiler plant, the boiler tubes, feed water heaters, and economizer.



Solvents being circulated through distillation equipment of a Michigan refinery to clean out deposits

The use of well treating methods and equipment for descaling started when the suggstion was made that Dowell fluid be applied to the particularly difficult job of cleaning an economizer at one of Dow's boiler plants. The economizer is a type of heat exchanger used to transfer heat remaining in flue-gas to the boiler water supply. This job turned out so successfully that it was tried everywhere in Dow plants that it could be applied. Meeting with success all along the way, it was decided to market Dowell fluid and the cleaning service for boiler plants.

The new refinery application of de-scaling solvent for cleaning refinery vessels came about several months later as a result of a suggestion at a refinery that an old bubble tower could be reconditioned for a change of service by soaking with muriatic acid. A routine order for bulk materials to the Dow Chemical Co., Midland, Mich. brought the reply that the company was fully equipped to supply not only the solvents but the cleaning service and equipment as well and the company would take the responsibility for the success of the cleaning job.

It was suggested that a representative of the chemical concern be permitted to acquaint himself with the type of scale to be removed and that a solvent particularly suited to the job would be prepared. This was done and the cleaning job was turned over to Dowell Inc. Since the bubble tower job, from 15 to 20 cleaning jobs have been done at the Pure Oil Toledo refinery alone with de-scaling solvent. Some vessels have been cleaned more than once.

The results proved to be an improvement over the previously used mechanical methods such as sandblasting and costs have been approximately the same. The difference between mechanical and solvent methods was compared with washing dirty hands with brushes or sand alone and with soap.

While not every cleaning job has been completely satisfactory, there has been enough improvement over older methods to stimulate study of more effective methods of applying the solvent method. For example, in crude pre-

heaters used in heating medium heavy gas oil recycle stock, the scale deposits on the outside of the tubes are very difficult to remove by mechanical methods and it is impossible to do a thorough job. In employing the solvent method, results have not been entirely successful. The treatment has left a scale in the form of a soft sticky coating on the tubes.

This coating can be removed by water thrown forcibly against the coatings or by a water wash. It is expected, however, that a little more experience may enable removal of the coating with less difficulty than has been experienced in the past.

The effectiveness of scale removal has been checked in the past largely by visual inspection. This has added to the cost of cleaning but as application technique has been proven satisfactory, the visual inspections will be discontinued and it will be unnecessary to open up the vessels to assure satisfactory cleaning, it was stated at the Pure refinery.

The service consists of an analysis by X-ray of the scale to be removed, the selection and preparation of a solvent best suited to this scale and to the material of which the vessel or tubes are fabricated, and finally bringing equipment to the refinery for pumping the solvent through the vessels and heating it when the circumstances require. Pump and steam heater are brought on a tank truck carrying basic and auxiliary chemicals. The solvent base, hydrochloric acid, is modified by various addition agents, inhibitors, catalysts, intensifiers or promoters to control reactions and prevent attack on the metal walls of the vessels.

The vessel to be cleaned is isolated from other equipment and piping connections are then made to the supply tank through the pump on the truck. The quantity of solvent required is generally enough to fill the vessel to be cleaned and enough left over to fill the circulating system. The solvent is kept circulating for a period of time and frequently is permitted to lie idle in the vessel for several hours to react. This usually occurs overnight. Some cleaning jobs, however, have been completed in an hour and a half as compared with two days on larger or more difficultly-cleaned vessels.

Generally the circulation is from bottom to top of the vessel. The circulation keeps fresh solvent in contact with the exposed scale while the soaking gives time for the solvent to do its work under the scale or in inaccessible crevices and corners. Solvent quantity has varied from 50 gallons up to 29,000 gallons. The latter quantity is the largest that has yet been employed on any cleaning job.

The treatment generally leaves the bright metal showing underneath the scale and the results are shown by increases in heat transfer in heat exchangers and boilers, in pressure drops where tubes have become clogged, and in improvements in temperature relations as shown by control instruments. The ability to wash out all of the solvent prevents any contamination of product. As a result of Pure's experience plant operators at a number of refineries plan to use the new cleaning method wherever there is an opportunity to improve on mechanical cleaning methods.

While no solvent has been developed yet which will successfully remove hard carbon and coke formations, development work is in progress which, it is hoped, will enable elimination of mechanical cutting methods in cracking tubes.

Motor Oil Filter Research

Dr. Glenn O. Ebrey, chief chemist for The Pennzoil Co. until last July, has undertaken a study of the design, construction and operation of oil filters under an industrial fellowship at Mellon Institute, Pittsburgh. The fellowship was established by the Fleming Mfg. Co., Providence, R. I.

Dr. Ebrey has been chief chemist for Pennzoil for seven years. He was research chemist for Sinclair Refining Co. at E. Chicago in 1931 and 1932. He received his B. S. degree from Illinois College in 1924 and his Ph. D. from the University of Pittsburgh in 1931.

Contents...

REFINING TECHNOLOGY

September 6, 1939

Solvents and their application service have been made a standard practice in boosting oil well production. Now, after first being applied to cleaning or de-scaling boiler plant equipment, the cleaning service has found application in cleaning refinery vessels of common scales and oxides R-329

Refinery engineers have contributed to the field of valve design or have stimulated advancement as a result of a combination of high pressures and temperatures and corrosive conditions. Recent adoption of a gate valve standard by the American Petroleum Industry will take refinery valves to a considerable degree out of the tailor-made class. Metallurgical standards also clear some of the chaos which has existed in the selection of materials suited to various conditions of refinery processes R-381

J. Blake Middleton has been appointed manager of refining operations in Europe for Socony Vacuum Oil Co., Inc. His headquarters will be at the Hague, Holland. His former position as superintendent of Standard Oil Co. of Ohio's Toledo refinery is being filled by Dr. F. J. Sanders R-388

British American Oil Co. recently replaced an old heater within nine days on the same foundations. This was done by building the new heater on a timber mat 60 feet from the desired site and moving it as soon as the old heater was dismantled R-390

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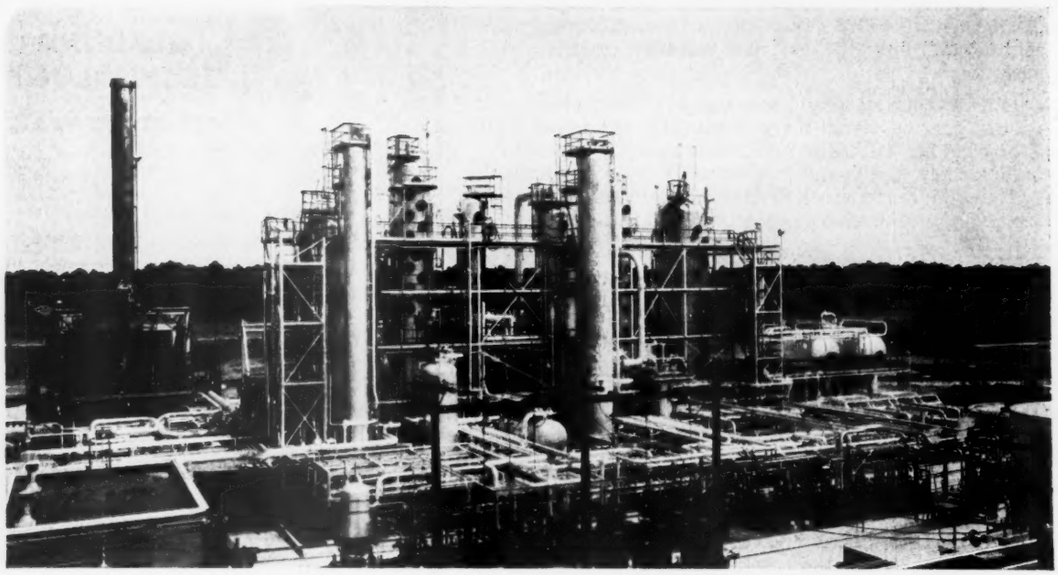

Phenol Extraction Leads

- The capacity of Phenol Treating Plants in operation or contracted for in the world exceeds the capacity of any other type of solvent treating process.
- This leadership is due in great measure to the inherent advantages of the Phenol Extraction Process. This process treats a wide variety of light or heavy stocks from different crude bases to produce a maximum yield of high quality raffinates.
- Kellogg-built Phenol Extraction Plants are characterized by ease of operation, flexibility and low operating costs.

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- The Gray Processes Corporation, Clay Treating

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Tulsa: Philtower Building
EUROPEAN REPRESENTATIVE: Compagnie Technique des Petroles, 134 Boulevard Haussmann, Paris, France.

Fewer "Tailor Made" Valves Result Of A. P. I. Standards Program

By M. G. Van Voorhis, N.P.N. Staff Writer

ABSTRACT

Probably no other piece of equipment used in the refinery has more varied service conditions to meet than the valve. Four main classes are in use, led in importance by the gate valve which appears now to be best adapted to the more extreme service conditions of cracking plant operation. This discussion gives some of the reasons for this preference, describes some of the more recent advances in valve design and outlines the materials standards included in the newly adopted A.P.I. standard No. 600A-39. In conclusion, some experiences of one refiner with plug valves substituted for gate valves are given.

Earle W. Gard, chairman of the Subcommittee on Valves of the A.P.I. Committee on Standardization of Refinery Equipment, joined the testing and development department of Union Oil Co. in 1919 and is now director of research and development of that company

METALLURGICAL and equipment design problems constantly confront refinery engineers in the selection of every piece of refinery equipment, one might say, down to the smallest valve or fitting. When the spotlight is turned on valves alone, however, it is realized that the valve problem is not one to be minimized in this idle manner. It turns out also that there is much concern about refinery valve design and materials employed in high temperature and high pressure work.

This concern still continues in spite of the fact that a valve standard including both material and design specifications was just adopted in May by the American Petroleum Institute after four or five years of preparation by a valve committee. This standard was not for all types of valves used in the refinery, either, it was only for gate valves—flanged steel outside-screw-and-yoke wedge gate valves. There are no industry standards for globe valves, check valves, or plug valves, three other main classes of valves used in the refinery. It is safe to say that every type of valve that was ever made has been applied somewhere in an oil refinery but in the service where requirements are most severe, gate valves have found the most extensive application.

Considerable credit goes to the committee in charge of the preparation of API Standard No. 600A-39. The suggestion that a valve standard should be drawn up was first made when the industry was more concerned about wall thickness than anything else. There was at that time too much disagreement on material specifications to enable inclusion in the proposed standard. Later, however, it was suggested that the standard be completed and E. W. Gard, Union Oil Co. of Cal., was made chairman of the Subcommittee on Valves of the Institute's Committee on Standardization of Refinery Equipment.

At the time the standard was adopted the committee membership included E. W. Gard, chairman, C. C. Ashley, Shell Oil Co., San Francisco; John Carlstrom, The Texas Co., Port Arthur; H. Henderson, Gulf Oil Corp., Pittsburgh; S. Peterson, Shell Petroleum Corp., St. Louis; D. E. Voss, Humble Oil and Refining Co., Houston; and P. H. Woods, Tide Water Associated Oil Co. The concentration of the committee on gate valves is easily accounted for by the fact that about ten of this type of valve are used in severe refining service to one globe valve. Some companies are an exception to this rule but for the industry as a whole the proportion is said to be representative.

A short discussion of the elementary differences will show the reason for this. The gate valve is generally considered an on-and-off valve while a globe valve is a throttling valve for regulating rate of flow or is used where frequent opening and closing is required because less turns of the handwheel are required, thus reducing time and wear. The outstanding advantage of the solid wedge gate valve which accounts for its extensive use is its simplicity in design. It is compact and rugged, has the least number of wearing parts, and is therefore well adapted to withstanding corrosion, erosion, incrustation, and hard usage.

Flow through gate valves is unobstructed and in a straight line through the valve whereas it must be deflected in passing through a globe valve. This affects line pressure, increases erosive tendencies, and leaves pockets for accumulation of coke formations, it is said. When pressure drop is not important, globe valves are often used in preference to gate valves, particularly in small sizes because they are less expensive. Inside screw type valves are usually more compact and less expensive than the outside screw type but inside threads are exposed to fluids passing through the valve and, therefore, cannot be used where corrosive conditions exist. One advantage of the projecting threaded stem is that it affords a quick visual indication whether a valve is opened or closed. From a safety standpoint, this is important.

The useful life of a valve is ordinarily limited by the life of the seat. Valves with closure pressed directly against the seat and moving directly toward and away from the seat, as in globe valves, have no tendency to wear, score, gall or seize due to sliding surfaces under

pressure. This disadvantage in the gate valve is partially overcome by allowing a total angle between the faces of the disk of about 10 degrees. The greater the angle, however, the greater is the tendency toward erosion. Another disadvantage of the gate valve is the difficulty in repairing damage to seats. In manufacturing, the tapered wedge must be made to fit the tapered body seat very accurately or the valve will not be tight. Because of this necessary accurate fit the repair of seats and disk outside the factory is troublesome. In refineries where a well equipped machine shop is required, this difficulty is not so great as in applications where few valves are required.

There has been no fundamental change in valve mechanism in recent years, but design has been perfected so that a tight closure can be secured. The various parts of the valve have been strengthened and the metals used in valves have been improved to meet the demand for use at high pressures and temperatures. It is the opinion of several valve authorities that the future valve improvements will be in the field of metallurgy rather than in structural design.

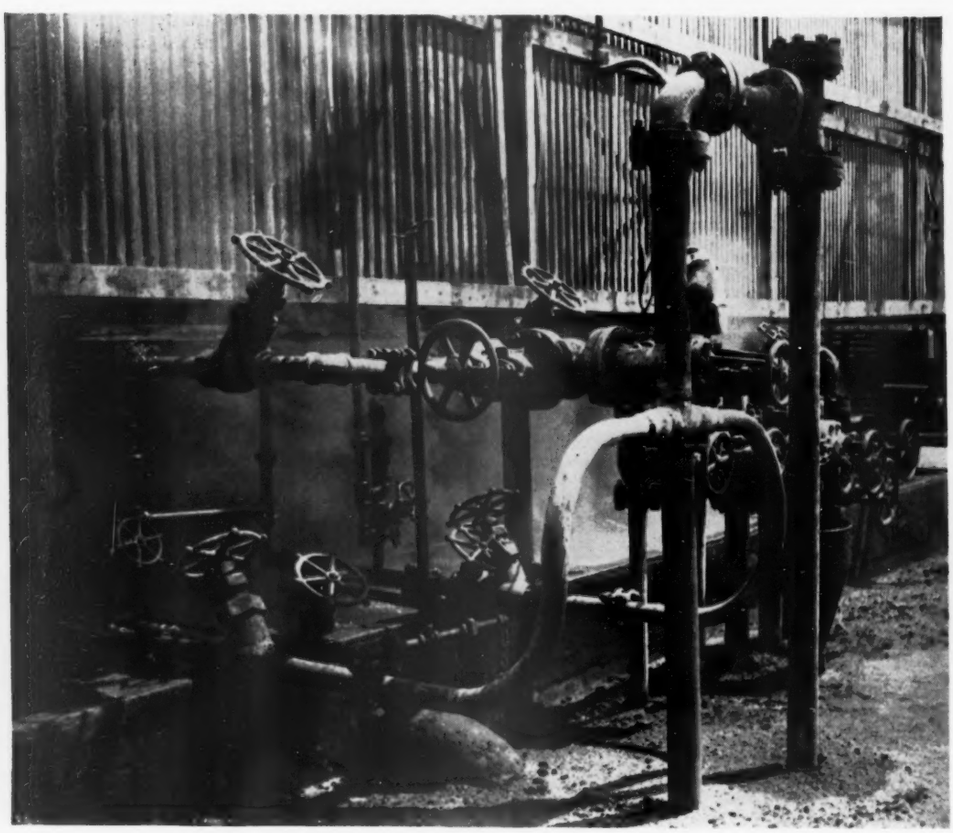
Gradual changes have occurred, however. One of the more recent improvements in gate valves to be generally adopted is the streamlining of interior of the valve by removing pockets in the body of the valve in back of the seat ring. This avoids turbulence and minimizes disturbances to free flow of fluids through the valve. The standardization of the petroleum industry on heavier walls than are standard in other industries will have an influence in the manufacture of valves for these other industries. Rather than stocking patterns for valves with different thickness of walls it is more economical for some valve manufacturers to supply other industries with heavier valves than they require.

One recent development in valve design has its source entirely within the petroleum industry. This is the ring joint on flanges. The result of this development is a considerable increase in the allowable working pressure for a given valve material. The ring-joint consists essentially of a ring of softer metal than the flange, fitting into circular grooves in the flange faces. This provides circular double-line high-pressure contacts on each flange face. The API standard, just approved, gives tables and graphs for pressure-temperature ratings for valves constructed of three types of steel. Two sets of tables and graphs are given for each type, one when ring-joints are used on the end flanges and the other when any other type of joint is used. Ring joints are not confined to end flanges but are also used on the bonnet flange.

The use of welded ends for connections into piping has gained some following but is not prevalent. Valves with welded bonnets have also been developed but are as yet used to a negligible extent among oil refiners largely because the frequency of opening valves for repairs. While it is possible to use the cutting torch and reweld several times, according to the manufacturers and welding experts, few are convinced that welded valves are practical at the present time. Even if practical from a maintenance standpoint, welding is held to be unsafe in a refinery.

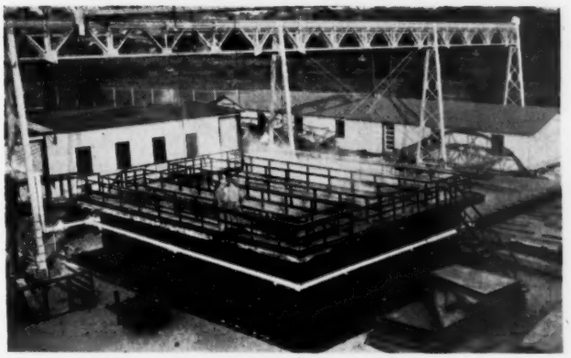
One of the older developments in gate valves which has not proved practical in oil refining practice is the use of split wedges instead of the solid wedge. These were designed to reduce sliding on the valve seat. Where there is the probability of carbonizing between the two parts of the wedge and clogging, the solid wedge has been found to give more satisfactory service.

Another relatively new development is the use of hard valve facings made of an alloy of cobalt, chromium, and tungsten. Better known as Stellite, such material is used in the form of welding rods and a layer or facing is welded to seat rings and gate faces for greater wear and corrosion resistance. Low coefficient of friction is another valuable property of this material. Some difficulty has been experienced in using this material because of the "big difference in expansion" between stellite and base metal to which it is applied. Improved technique in

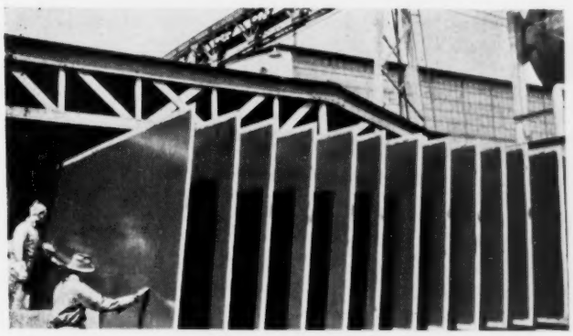


That gate valves do not have a complete monopoly of refinery valve applications is evidenced by this majority of globe valves in high pressure steam lines entering a cooling tower used in connection with a cracking unit. Courtesy Edward Valve & Mfg. Co.

The PHOSPHORIC PICKLING PROCESS



A close-up view of the pickling vats at our Greenville, Penna., plant.



Applying a coating of special paint while the pickled plates are still warm and free from dirt.

Offers Definite Advantages in Cutting Maintenance Costs

PICKLED steel plates for oil storage tanks are becoming increasingly popular, particularly among individuals responsible for storage tank maintenance. One of the most important reasons for this popularity is the reduction in maintenance costs made possible by using pickled plates.

The phosphoric pickling process is a scientific method of removing mill scale from steel. This not only makes it possible to paint the steel immediately but improves the bond between the paint and metal.

When this process is employed, the steel is pickled after fabrication. The plates are placed first in a warm sulphuric acid solution which removes the mill scale, then washed and dipped into a phosphoric acid solution. Upon being removed from this last bath, all surfaces except the edges are given a coating of special paint while still warm. This assures the paint being applied to a thoroughly clean surface. Also, the temperature of the metal speeds the drying process. After erection in the field, the final coats of paint are applied immediately.

For the past year and a half we have been pickling fabricated material by the phosphoric method at our Greenville, Pa. plant. We will appreciate the opportunity of discussing the advantages of pickling tanks and steel plate work that can be shipped economically from that point.

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Plants at BIRMINGHAM, CHICAGO and GREENVILLE, PA.

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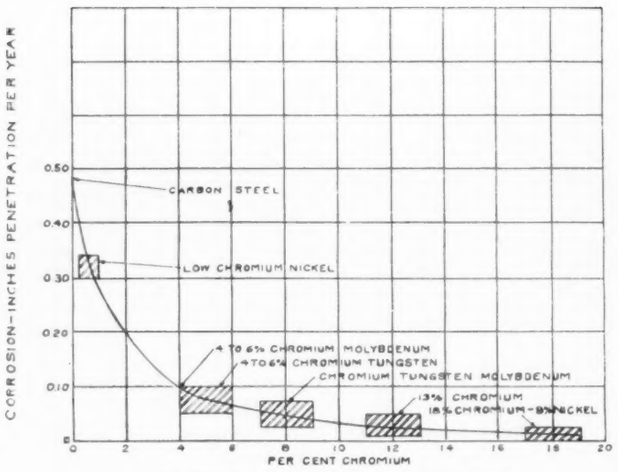
Houston	2919 Main Street	Chicago	2125 Old Colony Bldg.	San Francisco	1060 Rialto Bldg.
Tulsa	1607 Hunt Bldg.	Detroit	1513 Lafayette Bldg.	Los Angeles	1422 Wm. Fox Bldg.
New York	3345—165 Broadway Bldg.	Birmingham	1534 North 50th Street	Boston	1516 Consolidated Gas Bldg.



CORROSION RATE OF VARIOUS CAST STEELS
UNDER PRESSURE AT 1000°F. IN W. TEXAS CRUDE

The greatest decline in corrosion rate of various cast steels comes with the addition of 4-6% chromium when used under pressure at 1000° F. with W. Texas Crude. Courtesy The Chapman Valve Mfg. Co.

application, however, has minimized early tendencies to check and crack.

In spite of these properties one valve manufacturer finds in oil refinery use "less demand for Stellite mountings, although we have made a considerable number of valves with this trim for certain oil companies who have specified same. Probably the generally satisfactory performance of the stainless steels now used in refinery valves has held back any broad demand for Stellite," it is concluded. Another authority points out that while stainless steel is not particularly hard compared to Stellite, it displays excellent resistance to erosion. A companion metal to Stellite is Hastelloy which has been applied similarly to a large portion of the inside of the valve body in some instances. It is even more resistant to corrosion than Stellite. One valve metallurgist finds Colmonoy a similar material, "possibly a little bit better." This material was said to be at least 75 points higher in Brinell hardness. A valve with Stellite trim costs approximately 25 per cent more than one with stainless steel trim, according to one manufacturer and the cost is not likely to be reduced.

As mentioned at the start, the choice of materials for valves in the specialized services of the refinery, particularly in service involving high temperatures, high pressure, and corrosive conditions at the same time or any combination of two of these conditions, is full of uncertainties. While these are the main factors, the problem may be further complicated by other factors. High flow rates and presence of various foreign material in the lines have erosive effects upon valve parts which must be counteracted. The necessity for special and expensive steel alloys to combat these conditions has stimulated studies of metallurgy and metallurgical data.

The measures of the ability of steels to withstand the various attacks made upon it in severe refinery service are by no means sure in spite of the exactness and frequency with which laboratory tests are made. Among these tests are standard methods of determining yield point, proportion limit, ductility, coefficient of expansion, physical stability over a long period, freedom from "freezing" or galling, hardness, toughness, grain size, and others. Adequate creep and fatigue limits are essential knowledge. Heat treatment must impart some of the desirable properties to the materials and temperatures encountered in use must not remove these properties again.

To name or classify all of the alloys that have been used with varying degrees of success is an impossible task. The choice of material for every new valve purchased for a refining process has made a large share of refinery valves tailor-made equipment. In the new API standard an attempt has been made to standardize valve body-material specifications but it is probable that many variations of the seven steels will continue to be required to meet certain special conditions. All seven steels correspond to seven A.S.T.M. specifications. They are cast carbon steel (A 95-36), forged carbon steel (A 105-36, Class 2), cast carbon-molybdenum steel (A 157-36, Grade C-1), cast 4-6 per cent chromium-molybdenum steel (A157-36, Grade C-5), cast nickel-chromium steel (A 157-36, Grade C-11), forged nickel-chromium steel (A 182-36, Grade F-4 or SAE 3140), and forged 4-6 per cent chromium-molybdenum steel (A 182-36, Grade F-5).

One of the more commonly used specifications for bodies and bonnets for high temperature corrosion-resisting service is cast or forged 5 per cent chromium steel with 0.5 per cent molybdenum. The fact that this steel can be cast has been an important factor in its general acceptance by the petroleum industry. Other ingredients of this steel are 1 per cent maximum of manganese, 0.15 to 0.35 per cent carbon, 0.20 per cent silicon, .05 per cent phosphorus, and .06 per cent sulfur. In the forged steel a maximum of 1 per cent titanium is included while smaller proportions of manganese, phosphorus, and sulfur are permissible.

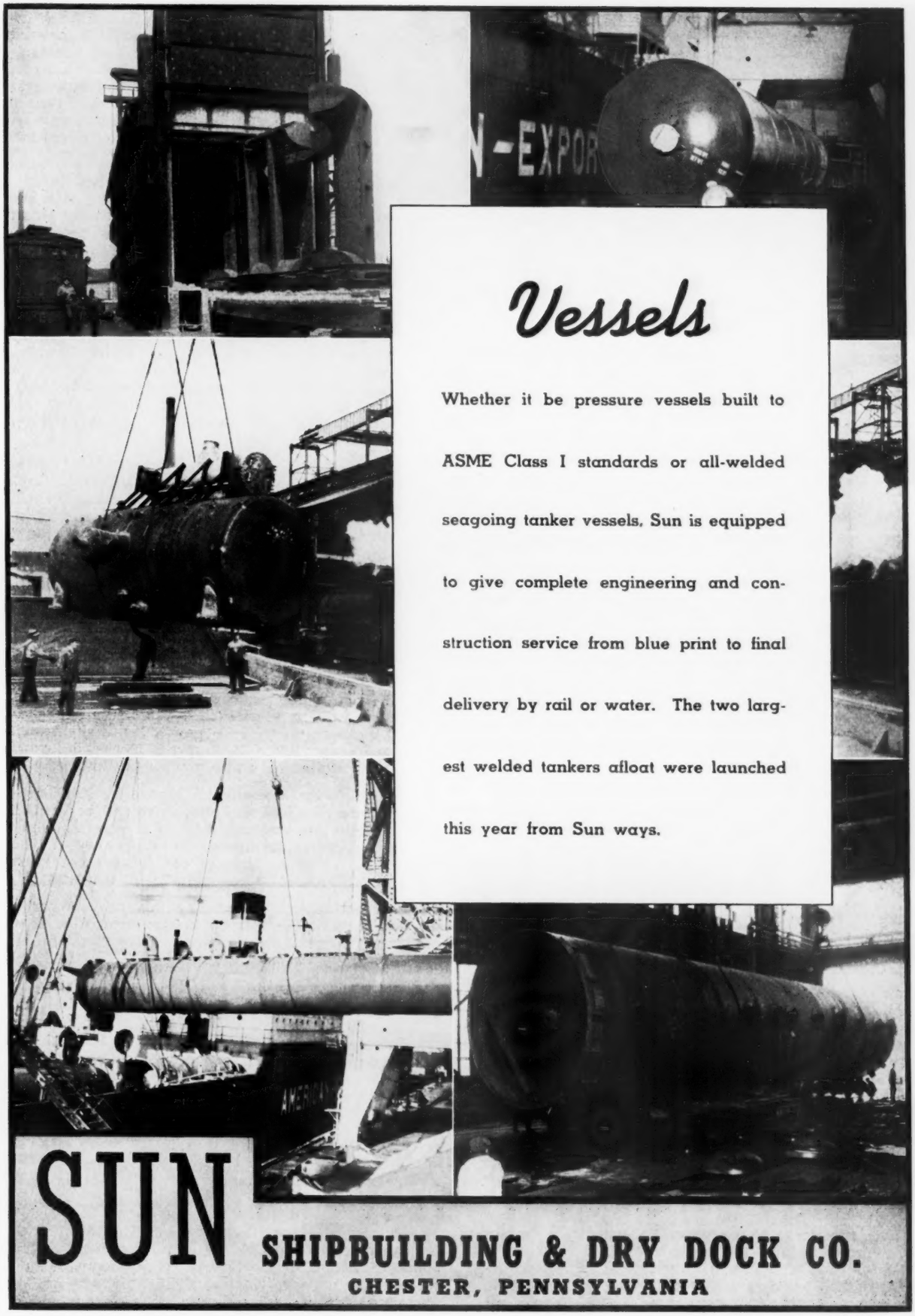
A 1 per cent chromium molybdenum steel is a versatile material used for bolting material for high temperature applications but which, with suitably modified heat treatment, makes good forging stock for bodies and bonnets. Its analysis corresponds to the A.S.T.M. specification A 193-36 T, B7. Stems, seats, disks, disk nuts, and forged bodies and bonnets are being made of what is popularly known as "8-18" which is generally used as a straight alternative for "18-8." These numbers refer respectively to the percentages of chromium and nickel. The "8-18" is said to have done valiant service in handling Mid-Continent crude. Not only is it good for high temperature service but both alloys have valuable impact properties at low temperatures.

High Temperature Alloys

The chrome nickel steel which opened the era of high temperature alloys for valves and fittings contains 1 to 2.25 per cent nickel and 0.5 to 1 per cent chromium, 1 per cent manganese, and fractional per cents of carbon, silicon, phosphorus, and sulfur. It gives excellent physical properties within the range for which carbon steel is ordinarily employed but at temperatures over 850°F. the drop in ultimate strength and the corresponding elastic limit is so steep that it has been dropped in favor of newer alloys.

Another low alloy steel for bodies and bonnets in high temperature service contains in addition to the above, molybdenum and some silicon. High physical values are readily obtained but careful heat treatment is required to produce optimum results. Ability to withstand heat is not necessarily an index of the power of a material to resist corrosion. Variations in concentration, temperature, changes in processing cycles, casual exposure to foreign elements, and many other factors, must be considered when selecting material for corrosion resisting service.

As far as the ingredients alone are concerned some effort has been made to generalize roughly upon the characteristics which each imparts to steel when added in suitable proportions. One valve manufacturer has included such an outline in the discussion of alloys most commonly used in valve manufacture. Taking common alloying elements alphabetically, this bulletin points out that aluminum has rarely been used as an alloying element in valve steels except in Nitralloy, in which it improves the toughness and coherence of the nitrided case. It is used as a deoxidizer



Vessels

Whether it be pressure vessels built to ASME Class I standards or all-welded seagoing tanker vessels, Sun is equipped to give complete engineering and construction service from blue print to final delivery by rail or water. The two largest welded tankers afloat were launched this year from Sun ways.

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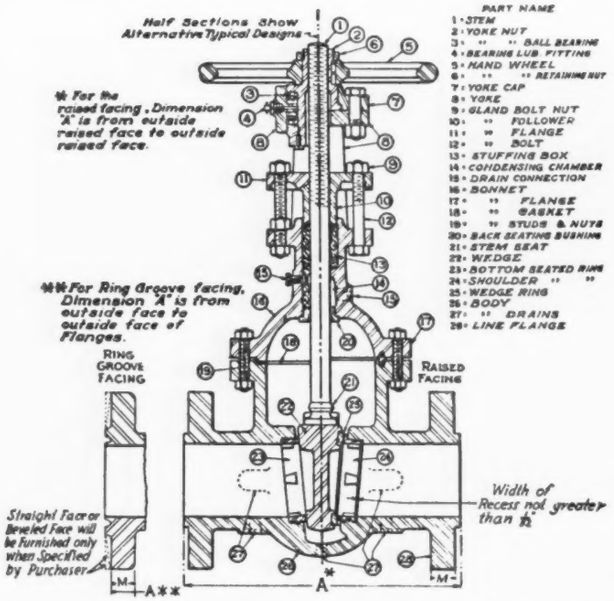
Half Sections Show Alternative Typical Designs
* For the raised facing, Dimension "A" is from outside raised face to outside raised face.
** For Ring Groove facing, Dimension "A" is from outside face to outside face of Flanges.
RING GROOVE FACING
RAISED FACING
Width of Recess not greater than ⅛"
Straight Face or Beveled Face will be furnished only when Specified by Purchaser
M
A**
A*
M
PART NAME
1 - STEM
2 - YOKE NUT
3 - " " " BALL BEARING
4 - BEARING LUB FITTING
5 - HAND WHEEL
6 - " " " RETAINING NUT
7 - YOKE CAP
8 - YOKE
9 - GLAND BOLT NUT
10 - " FOLLOWER
11 - " FLANGE
12 - " BOLT
13 - STUFFING BOX
14 - CONDENSING CHAMBER
15 - DRAIN CONNECTION
16 - BONNET
17 - " FLANGE
18 - " GASKET
19 - " STUDS & NUTS
20 - BACK SEATING BUSHING
21 - STEM SEAT
22 - WEDGE
23 - BOTTOM SEATED RING
24 - SHOULDER " "
25 - WEDGE RING
26 - BODY
27 - " DRAINS
28 - LINE FLANGE

A composite cross-section of the type of gate valve standardized by the A.P.I. shows typical variation in individual details

in controlling inherent grain size in ingot manufacture. Nitriding has not the corrosion resistance needed in refinery service.

Chromium has been intimately related to the development of alloy steels for high temperature and corrosion resistance. It adds hardness, decreases scaling, tends to lower impact resistance, but increases creep strength. Columbium offsets air hardening and impact lowering characteristics of welded alloy steel. Manganese is only regarded as an alloying element when over 1 per cent is present. Its general influence is in the direction of hardness, toughness and increased tensile strength. It counteracts high sulfur content of free machining steel.

Molybdenum and Nickel

Molybdenum has seemed to point the way toward solution of many alloying problems, it is pointed out. It reduces grain size, improves stability, and increases limiting creep stresses. It is potent in relatively small quantities. Nickel increases tensile strength, hardness, and resistance to shock. It improves corrosion resistance when added in sufficient quantities and, properly employed, improves heat resistance and raises ductility. Selenium, in sulfide form adds free-machining and non-galling characteristics.

Silicon has been successfully used in high temperature applications. It decreases scaling but tends to lower impact resistance and stimulate grain growth, this manufacturer finds. Titanium has been employed to decrease susceptibility to temperature changes while cooling chromium alloy steels. Tungsten has been employed as a substitute for molybdenum in chromium steels but is not looked upon with favor by many refinery engineers. Vanadium, because of its toughness and impact resisting qualities, has found application in bolting materials. It produces a stable, dense, refined-grained steel. Zirconium has been used as a free machining addition in the sulfide form.

There appears to be little correlation between various refining processes and the types of valves required in general for each type. Temperature, pressure, and corrosion are the leading determining factors. Cracking processes have tended to become more severe with respect to these factors. Polymerization is probably as variable as cracking in levels of temperature and pressure found. The catalytic processes in general are believed to be less severe and so far have shown a tendency to raise the size of valve required as a result of lower pressures and temperatures employed, it is indicated. Some oxidation problems in connection with catalytic work are said to be fairly satisfactorily combatted by use of high silicon steels. However, every change or development of processes "puts the valve industry up in the air with respect to the selection of suitable materials" while each manufacturer tries to outdo the other in discovering the most long-lived material, one valve man stated.

With the completion of the gate valve standard, the next task confronting the valve committee is a standard for plug valves. Some refiners have substituted plug valves for gate valves wherever possible because they are quick opening and closing, easy to operate when properly lubricated, foreign matter such as coke particles and scale cannot collect, they are much easier to clean, and in corrosive lines the ground surfaces of the seat and plug are protected. The experience of one refinery engineer is that these valves can be used over a wide range of pressure but the top temperature is 500°F. Today this company has standardized on plug valves for gasoline distillates, lubricating oils, gas, chemicals, lye, acid lines, water lines, fuel lines and in some instances, air lines. They are not recommended for salt water lines nor for block valves against corrosive liquids.

The economics in a comparison of gate valves with plug valves are governed by length of service to be expected, costs of maintenance (lubrication, cleaning and repacking), and cost of repairs due to corrosion. The company's records show the gate valve compares favorably with the plug valve in length of service. Its repair costs are considerably less, which more or less offsets the extra initial cost of plug valves in certain sizes. In one installation of the two types of valves in gasoline distillate service the repairs on a gate valve in 10 years cost $144 as compared to $26.50 for part replacement after five years service of a plug valve. A similar ratio was found in numerous other installations.

The one thing required for proper operation of the plug type valve is lubrication at least once a week, which would mean on one style of plug valve, a slight turn of a lubricant screw. When the supply of lubricant is exhausted, this screw is removed and a new supply inserted.

Although the necessity for lubrication has limited the temperature at which the plug valve can be used, design developments are understood to be in progress which will extend the temperature range into higher levels. The first installation of plug valves at one refinery ten years ago were the 150-pound valves with 200°F. temperature limit.

The enthusiastic reports by this one company may be indicative of the interest in this type of valve which prompts the next step in valve standardization in this direction.

Instrumentation Contest

Industrial instrument section of the Scientific Apparatus Makers Association is sponsoring an essay contest on how instruments save money or how instrumentation makes jobs. Twelve prizes totaling $500 are offered for reports or essays. First prize is $200. Contest closes Nov. 15. Official blanks are obtained from the association at 20 N. Wacker Drive, Chicago.

Win S.A.E. Award

Dr. Gerald Mark Rassweiler and Dr. Lloyd Withrow, General Motors Corp., Detroit, were awarded the Horning Memorial Award of the Society of Automotive Engineers recently for a paper "Motion Pictures of Engine Flames Correlated with Pressure Cards." The picture and paper were presented by the authors during the annual meeting of the society, Jan. 14, 1938, in Detroit.

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In addition to combination cracking units, solvent refining plants, and other refinery construction for American oil companies, Lummus is now building complete plants in England, Russia, Argentine, Dutch East Indies, India, Italy, France and Japan.

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PETROLEUM REFINING PLANTS

Sanders Manages Toledo Refinery As Middleton Goes to Europe

J. BLAKE MIDDLETON, superintendent of Standard Oil Co. of Ohio's 17,000-barrel Toledo refinery, resigned Sept. 1 to become manager of refinery operations in Europe for Socony Vacuum Oil Co. Inc. Mr. Middleton will make his headquarters at The Hague, Holland.

Dr. F. J. Sanders, head of Sohio's technical service division has been named superintendent of the Toledo plant to succeed Mr. Middleton.

Mr. Middleton, whose photograph appears on the front cover of this week's issue, has been engaged in the oil business throughout his active business life which began shortly after his graduation from The Citadel, a military school in his native city, Charleston, S. C.

At the time he was graduated in 1920 Standard Oil Co. of New Jersey was building a refinery at Charleston. Middleton majored in chemistry, but got his first job as fireman at the new plant. Soon he was an assistant stillman and from that job was moved up to shift foreman in charge of rerun stills. Later he was given a position in the plant office.

In 1926 Middleton was sent to Palembang, Sumatra, where the company was doing construction work. He served as a shift foreman for a time and then was put in charge of all oil movements in and out of the plant including the oil moved by tank steamers. Later he went to Batavia, Java, where the New Jersey company's main offices for the East Indies are maintained.

After two years in Java, Middleton returned to the United States and joined the manufacturing staff of Standard Oil Co. of Ohio in January, 1930. At that time, J. S. Harrison was vice president in charge of refining for Sohio. Harrison was a former Standard of New Jersey man from Charleston and worked with Middleton at the Charleston plant.

When he came to Sohio in 1930 Middleton was made assistant to Harrison in charge of mechanical engineering. In that capacity he was directly in charge of construction and maintenance of all plants. In 1936 he was made superintendent of the Toledo refinery.

Dr. Sanders who now takes over management of the Toledo plant has been a member of the general office manufacturing department since 1934 when he organized the technical service division of the company in conjunction with J. L. Collins. This division supplies technical assistance to all of the company's refineries.

When Dr. Sanders first organized this division its work consisted of checking refinery operations and studying process equipment to determine how costs could be reduced or products improved. Later the division expanded its work to include the process part of the design of most new refinery equipment. An important function of the department has been to study all new processes developed in the industry to determine whether they should be adopted by Sohio.

The technical service division is often called in to solve operating problems. Recently the Latonia, Ky., refinery had a problem of the disposal of fumes from asphalt oxidizers. An absorber was designed for the purpose. Further experiment at the No. 1 works at Cleveland resulted in a different solution.

In the five years since Dr. Sanders and Mr. Collins organized the department it has grown to a staff of 18 men including 14 chemical engineers, three chemists and a mechanic.

Dr. F. J. Sanders

Dr. Sanders is a graduate of Texas Technological Institute. He received his doctor's degree from Yale.

Japan Promotes Gasoline Substitutes by Subsidy

The Japanese government is promoting the use of substitutes for gasoline by direct subsidies and by pressure on public carriers according to a report by D. W. Lamm, U. S. assistant trade commissioner. It is estimated that there are now about 3000 charcoal burning units in Japan. The fuel bureau hopes to double that number by March 31, 1940.

Buses and trucks are chief users of charcoal. In Tokyo half of the buses were using charcoal by July. Some experimental work is being done for similar devices for passenger cars and taxicabs. To promote use of charcoal burners by taxicabs the Osaka prefecture is permitting such cabs to take preferential stations in waiting lines.

Official subsidies for those installing charcoal equipment may reach Yen 1,270,000 this fiscal year. Five types of furnaces for trucks and buses and three types for passenger cars have been approved.

Acetylene was opposed by officials until recently when tests were made to show safety of this equipment. Some now are promoting its use although the supply of carbide in Japan is limited.

Natural gas is being used by a few vehicles and one company is drilling more wells and manufacturing contain-

ers to increase utilization. It is hoped to supply 1500 vehicles finally.

Some experimental work is being done on electric vehicles to be propelled by storage batteries.

Vacuum Distillation Patents Held Invalid

Sun Oil Co. recently was successful in defending a suit brought by Red River Refining Co. and Petroleum Derivaties, Inc., of Maine, charging infringement of its patents covering vacuum distillation of lubricating oils. Judge Kirkpatrick of the U. S. District Court for the eastern district of Pennsylvania held that the patents of the plaintiff companies were not valid.

Patents involved were Nos. 1,488,709; 2,017,820 and 1,727,380.

The court held that vacuum distillation of petroleum had been known for 50 to 60 years from the time of the Tweddle patent of vacuum distillation of kerosine in 1867 although it was not shown that vacuum as high as specified by the plaintiff was used.

"So I think it may be fairly said that the essence of the plaintiff's patent," the court said, "is contained in the disclosure that, when the 'highest possible vacuum' of the prior art is higher than a certain fixed point and higher than any used in commercial practice, a new, though not unpredicted, result of genuine commercial value can be obtained.

"Whether or not this be called a discovery is not important. The law is plain that the discovery that an old process possesses an unsuspected advantage, or accomplishes an unsuspected result does not entitle one who points at that fact to a patent. The process must be new."

The court held that the point of 25 mm. absolute pressure was not critical although it is true that after reaching a certain point of vacuum, cracking and decomposition falls low enough to eliminate the necessity for chemical refining of the product. It was held that the prior art disclosed that the higher the vacuum the better the results.

Patent No. 1,448,790 is a product patent for an overhead lubricant from a napthenic base oil with a high viscosity and freedom from tarry matter. The court found that the Von Groeling patent No. 1,327,184 claimed good qualities and the avoidance of formation of tarry substances. It was held that the plaintiff's patent is invalid even though actual commercial production of such oils had not been accomplished previously.

Patent No. 1,727,820 was ruled invalid because it is "merely the addition of certain steps well known in the art, to meet conditions arising from the use of low grade petroleum."

Offers Course in Lubes

Lubrication and Lubricants is the newest course to be added by the chemistry department of Cleveland College for the fall term which opens Sept. 18. This is the first time the course has ever been offered by Western Reserve University. The class will meet Thursday evenings from 7:30 to 8:30. It will be taught by Dr. V. R. Damerell, assistant professor of chemistry.

Tests will be made of oils and greases for film strength, viscosity, ease of oxidation and other qualities. Part of the time will be given to discussion of practical lubrication problems.

Anyone working in the field of lubrication and lubricants, those majoring in chemistry, and teachers of chemistry may enroll for this course.

Dr. Damerell has been on the faculty since 1929. He has been a consultant on lubrication for several Cleveland firms for the past six years.

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GASOLINE ANTIOXIDANTS

30,000,000-Btu. Heater Moved After Construction

Portability of the modern oil heaters constructed with light-weight insulating refractory was demonstrated recently at a Canadian refinery where a new heater was assembled upon a timber mat on a temporary site approximately 60 feet from the old heater it was to replace, and moved into place after completion. The replacement of an outmoded heater with the least disturbance to operating schedule and minimum down time is described by R. L. Rude, The British American Oil Co., Toronto, and O. C. Schauble, The Lummus Co.

Portable oil heaters incorporating all of the desirable features of insulating refractory brick walls can now be built for relatively large capacities. The chief benefits to be gained with a portable oil heater are speed, facility and economy in the replacement of an existing heater.

Because the new setting was both more compact and lighter in weight than the old structure at the Canadian refinery, the existing foundations were employed "as were." In exactly nine days to the hour, from full capacity firing on the old heater to full capacity firing on the new heater, the switchover was made.

During this period the old heater was first allowed to cool and was then dismantled. The new heater, mounted on saddles and rollers, was drawn by steam winch and cable over timber runways into place between the existing tower and stack, lowered by jacks to exact elevation and grouted into place. Fifty tubes and fittings were reclaimed from the old heater, reconditioned and installed in the new coil. The coil was tested, the charge, transfer and utility lines hooked up, and the new flue connected. Without any preliminary firing to cure the setting, the new heater was brought up to full capacity in less than five hours.

The accompanying view shows the heater prior to movement across railroad tracks onto the existing foundations. The new heater has a normal capacity of 30,000,000 Btu. per hour and weighs approximately 125 tons.

Portable Lummus oil heaters, constructed like this one, permit of repeated movement and re-employment in various parts of the same refinery, the builders state. If obstructions, in the way of buildings, equipment or pipe lines block the movement of the heater as a unit, the complete salvageability of all materials makes it entirely practicable to dismantle the heater and reassemble at the desired site, it is said. The absence of any bonding mortar in the setting walls, arch and hearth afford 100 per cent brick reclamation. The use of bolted instead of riveted field connections between structural members facilitates the dismantling and reassembly operations.

O. C. Schauble, The Lummus Company, named five elements in the design and construction of this oil heater which suit it to movement as a complete unit: compactness, light weight, secure tie-back of each brick, above-grade hearth, and absence of internal walls. Contributing to light weight is the fact that insulating refractory brick allows construction one-fourth as heavy as standard refractory tile walls of comparative characteristics.

In the design of both stationary and portable Lummus oil heaters the hearths are elevated above grade by means of air-tight steel plate flooring carried upon a steel supporting framework. With the hearth above grade, the problem of devising a rigid bottom framework to facilitate movement of the heater is greatly simplified. A substitute for internal walls is a light-weight convection baffle which is said to perform the same function as the heavier bridge wall in conventional heaters.

Portability of the Lummus oil heater is shown by its construction on a timber mat near a furnace it was to replace at a British American Oil Co. refinery

Kendall First Aid Team Wins N.P.A. Plaque

Highlights of a safety program and its results were summarized in a talk by R. L. Risinger, safety supervisor of the Socony-Vacuum Oil Co., Inc., New York, at the annual meeting of the Department of Fire and Accident Prevention of the National Petroleum Assn., at Hotel Schenley, Pittsburgh, recently.

Modern methods of fire protection were demonstrated by C. B. White, American-La France-Foamite Corp. This was followed by a demonstration by F. E. Griffith of the ignition of petroleum vapor. Questions and discussions followed on static electricity, with Mr. Dischinger, Shell Oil Co., Inc., St. Louis, taking a leading part.

The second day, delegates were guests of the Mines Safety Appliances Co., Pittsburgh. Following a reception and greeting at the plant, there was an interesting demonstration of equipment of special interest to the petroleum industry. An inspection of the plant followed. At the luncheon, Charles L. Suhr, chairman of the board of The Pennzoil Co., Oil City, and president of the National Petroleum Assn., recalled the Titusville-Oil City fire about 40 years ago. The first-aid team contest was held at Cannon Circle in the park near the hotel.

The bronze plaque, offered by the association, was again returned to the Kendall Refining Co., Bradford. Individual members of the winning team were awarded pins by the association.

The scores were:

Kendall Refining Co. No. 2, Bradford, Pa.	98.33
The Pennzoil Co., Oil City, Pa.	97.93
Sinclair Refining Co., Wellsville, N. Y.	97.40
Kendall Refining Co. No. 1, Bradford, Pa.	97.33
Socony-Vacuum Oil Co. No. 1, Olean, N. Y.	97.20
Kendall Refining Co. No. 3, Bradford, Pa.	97.13
Conewango Refining Co., Warren, Pa.	97.00
The Pure Oil Co., Cabin Creek, W. Va.	97.00
James B. Berry Sons Co., Oil City, Pa.	96.13
Quaker State Oil Refining Corp., (McKean Plant) Bradford, Pa.	95.86
Socony-Vacuum Oil Co. No. 2, Olean, N. Y.	94.40
United Refining Co., Warren, Pa.	94.40

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, N.W., Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

August 8, 1939

REFINING

Process for dehydrating an emulsion—W. R. Alexander, Seattle. Filed Aug. 2, 1935. No. 2,168,309.

Method for purification of petroleum mahogany sulfonates—Manuel Blumer, Butler, Pa., assignor to L. Sonneborn Sons, Inc. Filed Jan. 19, 1937. No. 2,168,315.

Distillation and fractionation process—D. G. Brandt, Westfield, N. J., assignor to Power Patents Co. Filed July 1, 1931. No. 2,168,316.

Revivification of spent adsorbents—H. C. Cowles, Jr., and A. B. Hersberger, Philadelphia, assignors to Atlantic Refining Co. Filed May 8, 1937. No. 2,168,327.

Purification of waxes—S. W. Ferris, Aldan, Pa., assignor to Atlantic Refining Co. Filed May 8, 1935. No. 2,168,330.

Solvent recovery—W. W. Kraft, New York, assignor to Lummus Co. Filed Feb. 13, 1939. No. 2,168,570.

Method of separating wax-containing materials—D. B. Mapes and E. M. Dons, Tulsa, assignors to Mid-Continent Petroleum Corp. Filed May 10, 1937. No. 2,168,574.

Method of treating hydrocarbon oils—H. C. Schutt, North Tarrytown, N. Y., assignor to Gyro Process Co. Filed June 24, 1935. No. 2,168,610.

Process for treating mineral oils—M. R. Cannon, State College, Pa. Filed Feb. 20, 1937. No. 2,168,666.

Absorption process—P. M. Raigorodsky, Tulsa, assignor to Petroleum Engineering, Inc., same place. Filed July 1, 1937. No. 2,168,683.

Gasoline refining—Vanderveer Voorhees, Hammond, Ind., assignor to Standard Oil Co. (Ind.) Filed Sept. 8, 1936. No. 2,168,691.

Inhibiting carbon formation in metal reaction vessels—H. P. A. Groll, Berkeley, Calif., assignor to Shell Development Co. Filed July 20, 1936. No. 2,168,840.

Process for removal of mercaptans from mercaptide solutions—D. L. Yabroff, Berkeley, and E. R. White, Albany, Calif., assignors to Shell Development Co. Filed Oct. 18, 1938. No. 2,168,851.

Method of treating oils—H. D. Noll, Beaumont, Tex., assignor to Socony-Vacuum Oil Co. Filed July 8, 1937. No. 2,168,875.

Pipe still—Gustavus Auer, Snyder, N. Y. Filed Aug. 7, 1937. No. 2,169,086.

MISCELLANEOUS

Lubricant—C. M. Loane and B. H. Shoemaker, Hammond, Ind., assignors to Standard Oil Co. (Ind.) Filed Dec. 5, 1936. No. 2,168,674.

Manufacture of oxidized petroleum acid compounds—R. E. Burk, Cleveland, assignor to Standard Oil Co. (Ohio) Filed Dec. 12, 1936. No. 2,168,699.

Extreme pressure lubricant—A. W. Ralston, Chicago, assignor to Armour & Co. Filed July 25, 1936. No. 2,168,848.

Lubricant—B. H. Lincoln and Alfred Henriksen, Ponca City, Okla., assignors to Lubri-Zol Development Corp. Filed July 17, 1937. No. 2,169,155.

Lubricating oils—B. H. Shoemaker and C. M. Loane, Hammond, Ind., assignors to Standard Oil Co. (Ind.) Filed May 19, 1937. No. 2,169,185.

Diesel fuel—B. H. Shoemaker and H. R. Batchelder, Hammond, Ind., assignors to Standard Oil Co. (Ind.) Filed June 30, 1937. No. 2,169,186.

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August 22, 1939

REFINING

Treating hydrocarbon oil—Claude W. Watson, Yonkers, N. Y., assignor to Texas Co. Filed June 10, 1937. No. 2,170,169.

Vapor phase filtering process for treatment of hydrocarbon vapors—Malcolm P. Youker Bartlesville, Okla., assignor to Gray Processes Corp. Filed Dec. 4, 1937. No. 2,170,180

Conversion of hydrocarbons—Edwin F. Nelson, Chicago, Ill., assignor to Universal Oil Products Co. Filed May 31, 1938. No. 2,170,275.

Treatment of hydrocarbons—Vladimir Ipatieff and Herman Pines, Chicago, Ill., assignors to Universal Oil Products Co. Filed May 29, 1937. No. 2,170,306.

Conversion of hydrocarbon oils—Bernard L. Kramer, Chicago, Ill., assignor to Universal Oil Products Co. Filed June 30, 1937. No. 2,170,333.

Treatment of hydrocarbon oils—Jacque C. Morrell, Chicago, Ill., assignor to Universal Oil Products Co. Filed July 8, 1935. No. 2,170,336.

Process for converting normally gaseous hydrocarbons into gasoline—Frederick E. Frey, Bartlesville, Okla., assignor to Phillips Petroleum Co. Filed May 11, 1937. No. 2,170,367.

Dewaxing mineral hydrocarbon oils—Albert Schaafsma and Johannes M. Versteeg, Amsterdam, Netherlands, assignors to Shell Development Co. Filed May 27, 1935. No. 2,170,508.

Process for treating mineral oils—Constantin Skrepinsky, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Dec. 24, 1936. No. 2,170,620.

Process of refining lubricating oils—Ferdinand W. Breth, Petrolia, Pa., assignor to L. Sonneborn Sons, Inc. Filed May 20, 1937. No. 2,170,628.

MISCELLANEOUS

Gear lubricant—Gerald M. Fisher, Los Angeles, Calif., assignor to Socony-Vacuum Oil Co. Filed Sept. 4, 1937. No. 2,170,495.

Process for purification of naphthenic acids. Harold G. Reiber, Long Beach, Calif., assignor to Union Oil Co. (Calif.) Filed Oct. 19, 1936. No. 2,170,506.

Voltolized oils and products thereof—Robert P. Russell, Short Hills, N. J., assignor to Standard Oil Development Co. Filed Jan. 31, 1936. No. 2,170,665.

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Activities OF EQUIPMENT MANUFACTURERS

CAPT. A. E. HIGGINS, vice-president in charge of sales for Pittsburgh Equitable Meter Co. and Merco Nordstrom Valve Co., is making a series of flying trips throughout the country in his own plane.

During the past three weeks he has been on the Pacific Coast conferring with executives of various companies. He has also conducted a series of sales conferences with west coast division managers outlining merchandising plans for the balance of 1939.

★ ★ ★

VACUUM GAUGE—A new portable McLeod type high vacuum gauge is announced by F. J. Stokes Machine Co., Olney P. O., Philadelphia. The gauge covers the range from 0 to 5000 microns (5 mm.). With this gauge a single reading can be taken in from 2 to 5 seconds, it is said, and continuous readings not more than 10 seconds apart by turning the gauge from a horizontal (evacuated) position to a vertical (reading) position.

The gauge weighs 4½ pounds with mercury and measures 7 x 11 x 2 inches. Speed of the mercury in its flow is limited by a constriction in the tubing located so that there can be no "hammering" action, it is said.

★ ★ ★

RELIEF VALVE—An improved nozzle relief valve designed for use with hot liquids, vapors, or gases under pressure has been put on the market by the Crosby Steam Gage & Valve Co., 30 Church St., New York. This valve, style JCC, replaces style JJ. The nozzle and disk are heavier and the body has been braced and strengthened by addition of ribs.

★ ★ ★

CEMENT LINING FOR PIPE—An improved process for the manufacture of cement lined steel pipe for the transmission of highly corrosive fluids has been perfected by the Jones & Laughlin Steel Corp., Pittsburgh. The product is made on a new high speed mill.

The combination of a special mixture and the new process produces an even interior coating in the pipe, so smooth that the lining has a lower friction coefficient than the original pipe, yet is strong enough that no special handling is required except that the pipe cannot be deformed. The pipe can be shipped, cut to length, and fitted just as unlined pipe—the lining being able to withstand without chipping any blow on the exterior of the pipe which does not actually dent the pipe.

★ ★ ★

WELDING FITTING—A new type of seamless forged steel welding fitting is announced by Taylor Forge & Pipe Works. Its outstanding feature is the annular lip, which is forged integral with the fitting, as illustrated. By firmly centering the fitting in the pipe to which it is to be welded, the lip eliminates the need for backing rings, clamps and guides for holding the fitting in position, and is said to greatly simplify and expedite pipe welding.

Particular emphasis is placed by the manufacturer on the fact that the ring remains cooler during the welding than the molten weld metal. This produces a color contrast said to be an ideal guide to the welder, permitting him to obtain complete penetration without burning through.

TUBE WEIGHT TABLES—The Babcock & Wilcox Tube Co., Beaver Falls, Pa., has available Technical Bulletin 15 entitled Master Weight Tables for Round Seamless Steel Tubing ranging in size from sixteenth-inch outside diameter to 10¾ inches O.D. with 1⅝-inch wall thickness.

★ ★ ★

VALVE ACTUATOR—A new hydraulic valve actuator is announced by W. F. and John Barnes Co., Rockford, Ill. Open and closing operations and positioning control are available by automatic or manual means and by remote control. Efficiency is said to be several times greater than that of electro-mechanical actuators incorporating reduction gears. It is applicable to a wide range of speed requirements.

★ ★ ★

INSTRUMENTS—American Shaeffer & Budenberg Instrument Division, Bridgeport, Conn., announces a new Micromoto Reset Control Movement, an entirely independent reset control which may be installed on any control application by a hook-up on the diaphragm motor valve line without disturbing the control instrument.

The manufacturer points out that the use of wider throttling ranges has developed a need for some device to compensate automatically for shifting of the control point caused by changes in the controlled process. The device automatically returns the controlled temperature or pressure to the controller set point after a load change occurs. It is recommended for processes where widely varying load conditions have made automatic control difficult or impossible.

★ ★ ★

Richard Rimbach has joined Standard Steel Spring Co., Coraopolis, Pa., to work on development of a process for coating steel with a corrosion resistant pore-free metallic coating. This coating is said to have successfully demonstrated its resistance to severe corrosion conditions in Texas oil fields. It is said to be especially advantageous in the manufacture of barrels, tanks, tubing, wire, etc., where corrosion resistance is essential. Rimbach will act as technical advisor to R. C. Enos, president of the company.

★ ★ ★

CO INDICATOR—A new portable hand operated carbon monoxide indicator is announced by the Mine Safety Appliances Co., Pittsburgh, in its bulletin No. DS-2. This new instrument is said to possess a wider range of utility in the field than any other heretofore available, is small, highly efficient, and simple to operate. No wires or other connections are required. Weight is 16 pounds.

★ ★ ★

NON-SPARKING TOOLS—An alloy containing 98 per cent nickel has been developed for the manufacture of non-sparking tools by the Whitehead Metal Products Co., 303 W. Tenth St., New York. Present production includes hammers, chisels, scrappers and spatulas.

Either way— Dubbscracking

Whether the oil wells are shut down or flowing free, whether crude prices are high or low, Dubbscracking is the way to make premium-value gasoline and secondary products that can be varied with the changing seasons to meet—and excel—market standards

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Modern Bulk Plant Minimizes Fire Hazard

New points in fire prevention and control at oil marketing properties, developed by California oil companies through a co-operative study of their experience with fires, are:

1. Very few fires at bulk plants or service stations spread beyond the plant itself, making unnecessary elaborate steps to protect adjoining property.

2. Adequate venting of above-ground storage tanks is sufficient protection for tanks and contents, where standard steel tanks are used.

3. Greatest ignition hazard at oil storage plants is points where flammable liquids or vapors are exposed to the air—the loading rack and barrel loading department.

4. Arbitrary substitution for gasoline engine driven pumps of remote control induction motors is not warranted.

5. Diking to protect adjoining properties is not necessary where modern steel tanks and piping design is used.

Safety provisions, stressed in engineering design and operating practices, permitted a group of national oil companies reporting to the American Petroleum Institute each year, to show a fire loss in 1937 of only seven cents per $100 of value on more than $800,000,000, and a loss of only 3.6 cents per $100 of value on approximately $400,000,000 worth of oil in storage.

These points were developed in a study by Pacific Coast oil companies of a proposed revision, to meet modern conditions, of the model ordinance for storage of flammable liquids of the National Fire Protection Association, which has been used as the basis of municipal and state regulation on oil storage for many years.

The accompanying article was prepared exclusively for NATIONAL PETROLEUM NEWS by Geo. F. Prussing, safety engineer for Union Oil Co. of California, and a member of the committee of oil companies, from a talk given in May before the N.F.P.A.

By Geo. F. Prussing

A UNIQUE record has been established in the work done in co-operation between the city and county fire authorities and the fire protection engineers of the oil companies, working as a committee of the California Oil and Gas Association. Fully half the time of these men has been given to this community work and the results speak for themselves. Not a single major city on the Coast, from San Diego to Vancouver, has failed to avail itself of their services. Scores of ordinances regulating every phase of the oil business from drilling to ultimate use by the consumer, have been prepared with the help of this group.

In all of the ordinance work done by the committee the flammable liquids ordinance of the National Fire Protection Association has been the basis insofar as it applied. Adaptation has of course been necessary. The model ordinance does not include chapters on drilling and production. Even for the regulation of wholesale and retail oil marketing facilities the model ordinance must be cut and rewritten, expanded and amplified, to meet local conditions and the established practices of the industry. Yet nothing better exists in print as a basic code and the ordinances that have been written on the Coast reflect a high opinion of the Association's pioneer work.

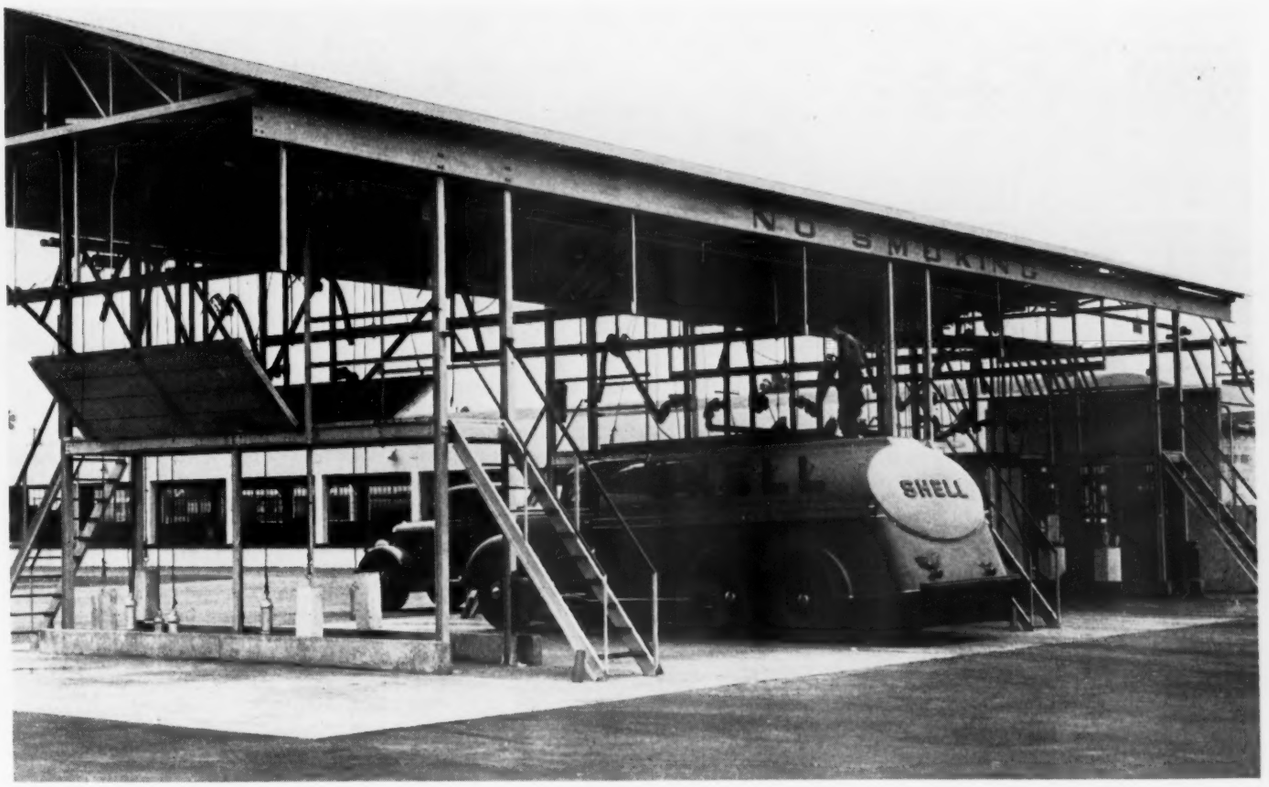
George F. Prussing

It has been felt, however, for a long time, both by fire authorities and the oil men, that it would be advantageous to reissue the model ordinance in a form that would make it more readily usable by municipalities. To that end the flammable liquids committee of the National Fire Protection Association last November appointed a conference committee comprising five Pacific Coast fire protection engineers to suggest a complete revision of the suggested ordinance on flammable liquids. Work on that revision has been going forward quite steadily ever since and already two chapters of the suggested redraft have been written. Other chapters are in the making and before the end of the year should be completed and ready for submission to the Fire Protection Association.

SOME of the lessons in fire prevention and control which have established the point of view of the group working on this model ordinance are at some variance with legislation of a generation ago.

First of these lessons is that in modern wholesale or retail marketing plants, few oil fires spread beyond the confines of the plant. Based on the fire record, every wooden structure and especially one with a shingle roof is of greater public concern than is the typical marketing oil plant. Consequently the public interest in such oil fires is well served when those simple regulations are enforced which eliminate or penalize substandard construction.

Another basic lesson is that extinguishment of oil fires at marketing stations by any other means than control of the fuel supply is seldom economically justified. Only at refineries and other points of necessary congestion and high ignition hazard has it paid the industry or the public to install chemical foam plants. That picture is changing so rapidly now that one hesitates to make any categorical statements. It is probable that the development of the portable foam generator and the portable gentle flow applicator, using the Moeller porous tube, will make it possible for municipal fire departments to protect oil marketing facilities in the future at



Steel and concrete construction of this Shell Oil Co. rack at Los Angeles, plus overhead location of piping greatly reduced the fire hazard by eliminating congestion and vapor pockets under the loading rack

a cost that is commensurate with the risk.

Perhaps the most vital lesson is the importance of adequate venting of above ground storage tanks. Experience has taught that well built steel storage tanks are practically immune to ignition from outside sources, and are safe against bursting pressures when properly vented. Good venting equipment is neither complicated in design nor unduly expensive. Adequate venting is largely a problem in mathematics.

Adequate venting, as defined in the current National Fire Protection Association model ordinance means "some form of relief for preventing the development of excessive internal pressure in case of exposure fire surrounding the tank." Every oil plant fire that we have seen or analyzed bears out the value and the importance of that criterion. But the oil industry and the insurance industry have in the past both failed to give sufficient weight to the evidence on this subject. Public authorities on the whole have ignored it.

Another lesson involves fire sources. The greatest single ignition hazard in an oil plant is that point where flammable vapors or liquids are exposed to the air, that is, outside of tanks and pipes. In a wholesale plant that point is obviously the loading rack and barrel filling place. Three of the last four fires we have analyzed started at the rack. Since every automobile tank truck carries potential ignition hazards, and since the loading of a tank truck involves vapor release, it should be clear that adequate control of piping from a point remote from a loading rack fire is of prime importance. So also is spacing of that rack from other structures and especially from known sources of ignition which cannot be controlled. So also is drainage. No less so is the discipline and training of personnel. Fire extinguishment for such a risk is of minor importance. Once the fuel is cut off, water serves as well as any other extinguishing agency.

Too much reliance has been placed on elimination of electrical hazards. There are hundreds of wholesale marketing stations on the Pacific Coast where all pumping of gasoline and other products is done by gasoline-engine driven pumps, housed in one-room detached pump houses. The fire experience in such installations has been practically nil. Modern practice is to substitute direct-connected squirrel cage induction motors for these engine driven units. This permits remote control from the loading rack, with greater operating efficiency. In some jurisdictions the local electrical inspectors relying on the National Electrical Code have tried to enforce the use of explosion resistive electrical equipment, sometimes alongside of the ex-

Scene of a bulk plant damaged by fire

isting gasoline engine, over which they have no jurisdiction. In other communities we have been asked to junk our gasoline engines and to substitute explosion resistive electrical motors, switches and wiring. In view of the record, such demands are not sound fire protection and certainly not economical. Still, they are understandable when one reads the National Electrical Code, which does not clearly define hazardous locations nor recognize the mathematical improbability of simultaneous failure of both pump and motor. In California a committee largely composed of electrical men and insurance representatives saw fit to clarify this point when writing the State Electrical Safety Orders of the Industrial Accident Commission. As a result squirrel cage, three-phase motors are permitted in the typical marketing station pump house while all sparking equipment, such as starters, are ruled out. The record bears out the wisdom of this clarification of the Code.

Perhaps the most difficult question that comes up before the ordinance writer is that of protecting the adjoining property owner against the possibility of oil escaping over the surface of the ground from a broken pipeline or tank. The basic principle is found well stated in the present model ordinance but refers there only to tanks of less than fifty thousand gallons capacity. It says "tanks . . . shall, when deemed necessary by the chief of the fire department, on account of proximity to streams, character of topography or nearness to buildings of high value, be diked or the entire yard provided with a curb or retaining wall, or other suitable means taken to prevent the discharge of liquids onto other property in case of a rupture in tank or piping." There is no reference to capacity for such dikes or basins as may be required under this paragraph although for tanks of more than fifty thousand gallons, the required dike capacity is one hundred per cent of any or all tanks enclosed.

Relatively few wholesale marketing station tanks are diked, taking a car window view of the situation across the continent. Many California companies in the past ten years have on their own motion diked scores of such tank groups, using the criteria stated in the quoted paragraph. Where it has been left to their discretion they have made these dikes hold one hundred per cent of the contents of the largest tank enclosed, plus ten per cent of the aggregate capacity of all others within the dike. Many of the ordinances recently written embody this formula. We know of no instance where modern steel tanks, equipped with modern pipe connections, have failed and warranted even this amount of capacity. It is our belief that one hundred per cent dike capacity for a group of tanks can only be suggested on the premise that two or more tanks will fail at the same time or that the piping from two or more tanks will fail and empty all tanks simultaneously. The mathematical chance of such a coincidence is too remote to warrant legislation carrying such an economic penalty. If diking were made an alternative to *all* the items that make up good standard tank and pipe design, plants would be better built. But in any case dike capacity should be based on experience.

IN the early days, when most station tanks were horizontal and stood on unprotected steel legs and when venting standards made no attempt to provide relief under conditions of surrounding fire, the matter of tank spacing came in for a lot of discussion. Later, when insurance rating schedules were first being made and wood roofed tanks containing crude oil were considered, the question took on even greater significance. We would not minimize the importance of this matter, but insist that where tanks are of standard gas tight design and are adequately vented through palate type safety—or breather—valves, spacing is not nearly as important as in substandard construction. Scores of fires involving adjoining structures have proved the fire immunity of the modern gasoline tank. Even ruptured piping and surrounding pools of burning oil have failed to impugn this reputation. We therefore hope in the revision of the model ordinance that tank spacing will be predicated on tank design rather than tank size, as it has been heretofore.

In an industry that produces, refines, transports and dispenses more than a billion barrels of flammable products a year, there is no need to hypothesize on what is safe practice and what is not. The record is extensive and the progress already made by the industry warrants confidence in its fire protection program.

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Letters TO THE EDITOR

Dear Editor:

I have been authorized by the Board of Directors of our Association to advise you that we very much appreciated your editorial on Page 14 of the July 19 issue of the NATIONAL PETROLEUM NEWS. It has been very helpful to this Association in that we have received a large number of requests for application from the independent jobbers. We also think that it was helpful in securing the assistance of the Independent Petroleum Association of America in our request to the railroads for reduction in rates.

We also feel, beyond question of doubt, that it will be very helpful in furthering our efforts toward a united independent oil men's fight for fair treatment, but we believe it will be much more helpful in pointing out to the independent refiners that we must stand together and to discontinue some of the practices which have been so harmful to us all. We have noticed a considerably different feeling since the organization of the petroleum rail shippers and we believe that this Association has helped in a small way and expects to help further in having these independents present a united front, not only in cleaning their own house but in protecting their interests against others, both in the industry and politically.

Personally I want to thank you for as fine an editorial as I have ever read concerning the oil business.

Very truly yours,
M. H. Champion, president,
Petroleum Rail Shippers Assn.
(Traffic Manager,
Anderson-Prichard Oil Corp.)

(NOTE: The NPN editorial referred to in Mr. Champion's letter was entitled, "Does the Oil Industry Want to be 100% 'Big Business'?", and was written at the time of the recent hearing in St. Louis on proposals to reduce freight rates on petroleum products moving from the Mid-Continent into so-called Indiana Standard territory.)

Goes After More Business

Spartan Petroleum Co., Spartanburg, S. C., has put on extra men to sell tires and batteries. It is "ringing door bells" to sell more gasoline, buying larger trucks to cut down expense, opening a parking lot, building two modern type service stations, and has a new umbrella-type revolving sign which has increased business considerably, according to R. L. Mitchell, president. The company has bought two trucks, one of 1500 and the other of 2000 gallon capacity.

G-E MOTORS Have Been Improved, Too

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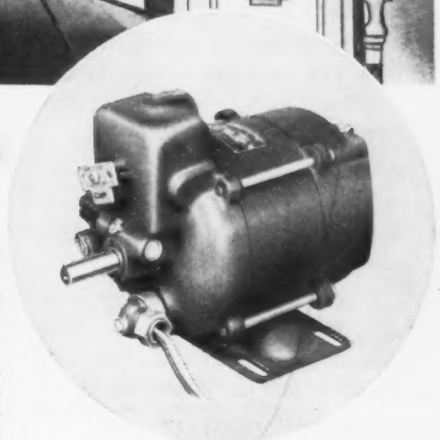
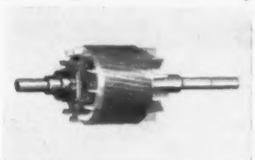
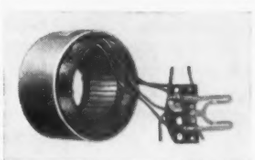


Listed by Underwriters' Laboratories, Inc., for operation in hazardous gas locations

EVEN though gasoline-dispensing pumps were dependable years ago, the up-to-date models you use today are far better. A similar improvement has been made in the motors. Now you can get G-E capacitor-motors for your pumps—they need only a fraction of the attention and maintenance required by the pump motors of a few years ago. And here's why:



ROTOR Is Practically Indestructible—The cast-aluminum winding will not become open-circuited or burn out—it has permanent electrical characteristics and permanent balance. This rotor has no brushes or commutator to cause radio interference, and will operate indefinitely without attention.



STATOR Has Long Operating Life—Punchings are held rigidly in place by a rolled-steel shell and are treated with a rust-resisting compound. Windings are resistant to moisture, oil, and gasoline—are protected against damaging overload by a thermal overload switch.

BEARINGS Require Only Occasional Oiling—This bearing will appeal to the service man—it has a large oil reservoir and requires oiling only occasionally. Close-fitting shaft seals resist entrance of dirt and gasoline.

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GENERAL ELECTRIC

Dealers Should Carry Part Of the Cost of Credit Cards

Retail dealers should carry part of the expense of credit card sales, since they benefit most from the business but are thus relieved from providing their own capital to carry credit accounts.

This is the principal conclusion of a study of uses and abuses of credit cards made by creditmen for oil companies. Other points are:

The practice is growing for the oil company to charge the dealer one per cent of the amount of the credit card sales ticket, for handling the account for him.

Benefits to the oil company from credit cards as used today are not commensurate with their cost.

Purchases on credit cards should be restricted to petroleum products and services, except in the home community of the card holder. Use of credit cards in general should be limited to smaller areas.

Present cost of credit card accounts to oil companies, including all investigation work and carrying the account on the books, is from 10 to 12.5 per cent of the average monthly service station account. This does not include credit losses. Where the account is slow pay, the cost may be double.

This study of credit cards was made by the Southwest Petroleum Credit Group, comprising oil company creditmen from Texas, Oklahoma, Arkansas, Louisiana and New Mexico, and was presented at its recent conference in Fort Worth by H. E. Butcher of Chicago, general creditman for Cities Service Oil Co. His report in full is published herewith.

By H. E. Butcher*

Presented at Conference of Southwest Petroleum Credit Group, Fort Worth

CREDIT cards as applied to the oil business present problems more far reaching than for any other type of business. Credit cards issued by hotels are good at certain hotels controlled or owned by a group for certain specific purposes, usually to get preferred service or to cash checks within certain limits and these cards are issued only after careful investigation. Telegraph companies issue credit cards to enable individuals to send telegrams collect.

But oil companies issue credit cards good through the United States and parts of Canada to almost any car owner. The holder of an oil credit card can take a trip across the United States without paying out 1 cent for petroleum products or car servicing and sometimes may purchase tires, batteries, and other accessories. If he should be the holder of a card and should lose his position, he could start a tour of the United States looking for another job at the oil company's expense.

The original purpose of the credit card was for identification purposes, to enable the holder to purchase petroleum products on credit, but the tendency since that time has been for a credit card without any restrictions and for longer periods of time. A few years ago, credit cards were good for 30 days only. Now, the majority of cards issued are on an annual basis. Monthly credit cards have practically disappeared and quarterly cards are decreasing in favor of semi-annual and annual cards.

Credit cards were used to develop business at retail outlets. Active solicitation was carried on in neighborhoods surrounding service stations. Cards were distributed without very much aforethought to credit responsibility and tremendous losses were incurred, so that the tendency today is a reduction of 50 per cent to 70 per cent in number of cards formerly issued. Where active neighborhood solicitation occurred, individuals of little or no credit responsibility were easily induced to use the card, while the more desirable customers of greater credit responsibility were reluctant to change if they were satisfied with their existing source of supply.

Two years ago, a prominent credit man said that the credit card was the worst thing that had ever been developed; yet in spite of this fact the credit card seems to be a definite part of the oil business. Applications for credit cards are more carefully scrutinized and cards issued only after very careful investigation. Credit cards carry limitations as to time with expiration dates, areas in which they may be honored and products that may be purchased. No method of cancellation has been very effective except actual repossession of the card itself.

APPLICATIONS for credit cards must meet various requirements. Some companies require that the application be signed and others do not. Others are verifying the applications received by mailing a duplex card or letter direct to the customer prospect, asking him if he would like to have a credit card, and if so, please sign, etc. Only those prospects who return the cards or letters are investigated. It has been reported that the cost of investigation expense has been materially reduced. As we all know, the investigation expense has been terrific and way out of proportion with the amount of business secured per credit card issued.

Attempts have been made to control credit card sales through having several types of cards—one, good for three months; one for six months; and one, annually. The number of cards issued for annual periods has been increasing although the total number of cards issued has shown a downward trend.

Some credit cards are good for petroleum products only, others for tires, batteries, washing and greasing service, coupon books,—anything that an oil company has to sell. Still others, having no restrictions in the past, are now eliminating tires, batteries and coupon books, so that today the majority of credit cards are good for petroleum products and services only.

Territorial limitations have been imposed in the past, limiting the area in which a card may be honored to a city or to a state; but the tendency in the last year has been for companies to make exchange agreements

*General creditman for Cities Service Oil Co., Chicago.

with other companies so that the holder of a credit card may purchase petroleum products throughout the United States and in areas where the issuing company is not represented. This is largely a customer accommodation and can not be profitable to the issuing company except on the exchange business received.

The use of a credit card contemplates that credit will be extended by all dealers who may handle the products of the issuing company, and that the credits so created will be taken over and carried by the issuing company. In addition, credits extended by dealers which do not arise from credit cards are carried by the supplying company. Both types of credit may be treated together. This arrangement of carrying credit for dealers has been greatly increased since the adoption of the Iowa Plan of operation which has had wide application in the petroleum industry.

Whether or not a customer of a lessee dealer or dealer has a credit card, the company carrying the retail consumer account is subjected to considerable expense in carrying the accounts on its books, such expense consisting of salaries paid to credit men, bookkeepers, stenographers, credit investigation, legal fees in collecting slow accounts, telephone, stationery, postage, and credit losses on the cards themselves.

Charge of 1 Per Cent Is Amount Suggested

For several years, there have been discussions at various credit meetings of the advisability of making a charge to dealers for handling the accounts of approximately 1 per cent of the ticket and the tendency toward making such a charge has been increasing. The amount of 1 per cent applied to the average ticket is 2 cents and does not mean much on the individual ticket handled, but in the aggregate, amounts to considerable. One company deducts 0.5 cent a gallon on tickets purchased and two other companies are now making a charge of 1 per cent of the amount of the ticket.

Various opinions have been expressed on the cost of handling a service station or credit card account. The cost of most companies on credit business is inclusive of all types of credit business, such as tank car, tank wagon, fuel oil, accessories, tires, and other types of sales, so that there is no definite information available as to the actual cost of handling a service station or credit card account.

Opinions have been expressed in many different ways. One said the cost was 6 cents per ticket; another 0.75 cent per gallon; another slightly less than 1 cent; and others estimate from 2 cents to 6 cents per gallon. Another company estimates its cost from 28 cents to 32 cents per account per month.

Most all agree that the average service station or credit card account av-

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erages from $12 to $15 per month. Assuming the average account is $15 per month and that the average purchase is 100 gallons of gasoline or 85 gallons of gasoline and 6 quarts of oil, an expense of 0.5 cent a gallon would be from 40 cents to 50 cents per account per month. As stated above, it is difficult to allocate cost of credit card or service station accounts directly or separate from other expense, but we feel from our own analysis, that it runs from 30 cents to 40 cents per account per month.

Expense Is 2 Per Cent

If the average cost is 30 cents for a $15 account, the expense is 2 per cent. If the average cost is 40 cents, the rate of expense is 2.67 per cent. If the average cost per account per month is 50 cents, the average expense per dollar of credit sales is 3.33 per cent. This would also produce an estimated cost of from 0.3 cent to 0.5 cent per gallon exclusive of losses.

A recent survey shows that an average of one customer is secured out of 13 names investigated. If we add to the cost of keeping an account, the pro rata expense of all accounts investigated to the one account secured, we would then have an average monthly expense of from $1.30 to $1.50 per month for an account averaging monthly purchases of $12 to $15. The monthly cost in per cent would be from 10 per cent to 12.5 per cent. If the average account purchases every other month and pays 30 days slow, the costs above, per account, should be doubled.

In the collective anxiety of the oil companies to increase the number of credit cards issued or number of credit card customers, many good customers carry credit cards issued by more than one company. That customer may then split his business between two or three companies and he may even pay cash for some of the business, so that the resultant cost on a lower average purchase per company is materially increased and we go merrily along thinking that the credit card customer is an asset to our business.

We do not intend to convey the idea that we are opposed to credit cards—we think the credit card has its place and by careful selection, good business can be developed and retained. However, we are opposed to a promiscuous distribution of credit cards because of the high cost and low return, if any.

Credit Card Losses

Up to this point, we have said nothing about losses on credit cards. Here again it is difficult to obtain accurate information. We have data that would indicate that losses run from as low as one-tenth of 1 per cent to as high as 4 per cent and these losses must be added to expenses quoted above. The credit card customer who pays promptly each month upon presentation or receipt of his bill is an asset and many companies say that their credit card business is the best part because of prompt pay. We have had instances where we could report the same thing until there was an industrial shutdown and resultant unemployment. When income stops, payment of bills stops, but too often the consumption of petroleum products through the medium of the credit card did not stop at the same time, but went on and on until the card was either picked up or expired by its own date limitation.

Many companies send out stop lists, but these are unwieldy and unsatisfactory and most companies have discontinued this practice, for the cost of sending out stop lists was often more than the potential loss. Several companies are now sending out a letter to their slow and delinquent credit card accounts requesting them to return the card and returns of over 90 per cent have been reported. This seems to be the most satisfactory way.

Cash and Lodgings Are Among Charges

Many credit card abuses have appeared in addition to the over extension of credit. Cash, lodging, meals and repairs have been known to have come through on credit card sales as gasoline, oil greasing, etc. Sometime ago, a credit card holder made a drive of 300 miles and when all of the tickets arrived at the issuing company's office for this trip, the consumption of gasoline and oil totalled $115. There was no way to tell which tickets were legitimate and which were not. At other times, credit men discover a change of oil every time the tank is filled.

Several sets of tires have been obtained within a 30-day period by the credit card holder driving from station to station. Another case was reported of a credit card holder soliciting business from various individuals consisting of filling the tank, changing the oil, grease job, wash job, at a discount. The credit card holder obtained the money, but at the end of the month when the oil company attempted to collect its bill, the credit card holder had gone.

Stolen cars have been operated from two to three months where the car owner accommodatingly left his credit card in the car. One car was traced on an extensive trip from the tickets received by the oil company, but neither the car nor the accounts were recovered.

It is the abuses that cause the credit man to sit up nights and get gray hairs wondering when it will stop or who will be next.

In conclusion, it would seem from data available that credit card business or retail accounts carried for re

sellers is an expensive operation for the oil company. The results obtained are not commensurate with the cost—especially so where sales campaigns for new customers are conducted to increase business at retail outlets. The reseller is relieved of the expense and capital necessary to carry his own accounts. The supplier does it for him on the erroneous assumption that it was good business and not expensive.

Regardless of these facts and conclusions, it would appear that the credit card is a definite part of the oil business today, but deserving of careful thought and consideration from both a sales and credit viewpoint. Dealers reaping the benefit, should absorb some of the expense. Cards should be restricted to petroleum products and services, except at home address of the card holder, and limited to smaller areas wherever local conditions would seem to warrant.

TRADEMARKS

The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D C., trademark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

TANKAR, Ser. No. 418,119. Bernard M. Solomon, doing business as Tankar Filling Stations, Montgomery, Alabama. Filed April 11, 1939. For fuel oil. Published August 15, 1939.

P, and picture of a pelican, Ser. No. 419,875. The Petrol Corporation, Los Angeles, Calif. Filed May 26, 1939. For gasoline. Published August 15, 1939.

FYTER, Ser. No. 415,217. The Fyr-Fyter Company, Dayton, Ohio. Filed Jan. 25, 1939. For chemicals used as charges for fire extinguishers, as constituents thereof, as antifreeze and freezing temperature depressant materials and as insecticides. Published August 15, 1939.

BUPANE GAS CEDAR RAPIDS, IOWA and shield, Ser. No. 419,811. Otto A. Kohl, doing business as Bupane Gas Company, Cedar Rapids, Iowa. Filed May 25, 1939. For liquefied petroleum gas. Published August 29, 1939.

HUDSON OIL COMPANY MOTOR OIL, and picture of motor oil truck in a circle, with two planes and two racing cars on the rectangle behind the circle. Ser. No. 407,549. Hudson Oil Co., Kansas City, Kansas. Filed June 16, 1938. For lubricating oil. Published August 29, 1939.

TRIPLE "L" LLL MOTOR OIL, Ser. No. 413,971. Hudson Oil Co., Kansas City, Kansas. Filed Dec. 17, 1938. For lubricating oil. Published August 29, 1939.

TRAVELUBE, Ser. 420,027. Strauss Stores Corp., Maspeth, L. I., N. Y. Filed May 31, 1939. For lubricating oils and greases for motor vehicles, hydraulic brake oils crank case oils, shock-absorber oils and penetrating oils. Published August 29, 1939.

PREFERRED, Ser. No. 421,082. Louis M. Goldman, doing business as Lou-Bob Company, Chicago, Ill. Filed June 29, 1939. For denatured alcohol used for anti-freeze. Published August 29, 1939.

AEROLENE, THE MOTOR OIL PURIFIER, Ser. No. 419,213. Roy E. Swartz, doing business as Aerolene Sales Co., Los Angeles, Calif. Filed May 8, 1939. For nonacid motor oil purifier. Published August 22, 1939.

STRAT-O-FLO, Ser. No. 406,952. The Universal Motor Oils Company, Wichita, Kansas. Filed May 31, 1938. For lubricating motor oils and greases. Published August 23, 1939.

UNI-PEP, on a design, Ser. No. 417,778. Richard D. Pelicano, Washington, D. C. Filed April 1, 1939. For gasoline, lubricating oils and lubricating greases. Published August 22, 1939.

TALCOLENE, Ser. No. 418,992. Talco Asphalt & Refining Company, Mount Pleasant, Texas. Filed May 2, 1939. For gasoline. Published August 22, 1939.

LUBE-MERCHANT, Ser. No. 419,890. Standard Oil Company of California, Wilmington, Del., and San Francisco, California. Filed May 26, 1939. For merchandising equipment comprising storage and display cabinets and background wall panels. Published August 22, 1939.

Gasoline Shipments Up 10%

BISMARCK, Sept. 1.—Shipments of gasoline into North Dakota increased 10.9 per cent during July of this year, compared with receipts in the same month of 1938. Inshipments of kerosine were up 11.3 per cent in July, compared with the same month last year, while tractor fuel shipments increased 3.9 per cent, according to a report of the state oil inspection division.

Total receipts of gasoline in July were 15,055,700 gallons, compared with receipts of 13,580,465 gallons in July, 1938. Kerosine inshipments totaled 627,526 gallons, compared with 563,802 in July of last year, while tractor fuel receipts were 2,728,682 and 2,626,937 during July 1939 and 1938, respectively.

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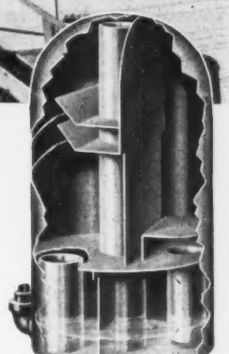

➡ **ECONO - VENT performs all the useful functions of ordinary tank vents—admits air when tank's contents are withdrawn and discharges air when tank is filled—but confines within its own chambers the "breathing" caused by normal expansion and contraction. Result: 50% to 75% saving in evaporation and storage losses.**

SAVE WITH Econo-vent LIQUID SEAL TANK VENT
THE NEW TYPE TANK VENT WITH THE REVOLUTIONARY LIQUID SEAL

Packard and Willys Release Data On Lubricating their 1940 Models

DETROIT—Packard 1940 models include one six-cylinder series, known as the 110, and three eight-cylinder series, the 120, 160 and a new 180 series. The latter is considered a luxury companion line to the 160 model, and succeeds the old line of twelve-cylinder models, which has been discontinued.

Factory lubrication recommendations for 1940 Packard models, crankcase, gasoline tank and cooling system capacities, and motor and chassis changes and information are given below, together with similar information on the 1940 Willys line.

Packard has revised its recommendation on lubrication of main chassis points from every 2000 miles to every 1000 miles. Oil changes are recommended at 1000-2000 mile intervals.

The 1940 Willys has downdraft carburetion, with hydraulic brakes standard equipment on all models. Steering-post gear shifts are standard on the Deluxe, optional on the Speedway model. Springs are softer, with clips lined with rubber to keep leaves together and eliminate squeaks and slapping. Details on the new Willys are also given below.

PACKARD

Packard 1940 models are in four series, known as the 110, 120, 160 and 180. The 110 is the former Six, the 120 the former Eight, the 160 the former Super-Eight, and the 180 succeeding the former line of Twelves which have been discontinued. A new 8-cylinder engine has been developed for the 160 and 180, rated at 160 horsepower at 3500 r.p.m., with 9 main bearings, hydraulic valve lifters, metered flow lubrication and other details shown below.

The 110 Model

Engine 6-cylinder; 100 horsepower; 3½ by 4½ inch bore and stroke; compression ratio of 6.39 to 1. Oil capacity 5 quarts as in past, with dip stick on left side. Radiator capacity is 17 quarts compared with 3.8 gallons last year, thermostat starts to open at 145 degrees instead of 135 degrees. Front springs are independent parallelogram type, unchanged; rear leaf springs are ⅜-inch longer, rubber bushed as in past, but mounted in compression shackles attached to frame by steel gooseneck—tension shackles formerly used. Transmission capacity is 2 pints, unchanged, S.A.E. 140 in summer and S.A.E. 90 in winter. Overdrive capacity is 1¼ pints, using same lubricant as transmission. Rear axle ratio is 4.3 to 1, differential capacity 4½ pints instead of 6, using recommended Packard hypoid lubricant. Tire size is 16 by 6.25, pressure 26 pounds in front and 28 in rear. Wheelbase is 122 inches. Electric tandem windshield wipers are new, supplanting vacuum booster type. Gasoline tank capacity 17 gallons, instead of 18.

The 120 Model

Engine 8-cylinder, 120 horsepower, 3¼ by 4¼ inch bore and stroke, 6.41 to 1 compression ratio. Oil capacity is 6 quarts, with dip stick on left. Radiator capacity 18 quarts. Springs, transmission and overdrive details same as 110 model. Rear axle ratio 4.09 to 1 and capacity 6 pints. Tire size 16 by 6.50 with pressures 24 and 26 pounds front and rear. Wheelbase is 127 inches. Windshield wipers same as 110. Gasoline tank capacity continues 21 gallons.

The 160 Model

Engine is 8-cylinder, 160 horsepower, 3½ by 4⅝ inch bore and stroke, 6.45 to 1 compression ratio. Oil capacity is 7½ quarts, with stick on left. Radiator capacity is 20 quarts. Springs, transmission, overdrive, rear axle details same as other models except for axle gear ratios. Tire size 16 by 7.00, pressures 26 and 28 pounds. Available on 127, 138 or 148 inch wheelbase. Starter motor on this new engine is of back-gear type with two oilers instead of one on 110 and 120 model. Same applies to 180 model. Gasoline tank capacity, 21 gallons.

The 180 Model

Same in general as 160 model except for body details. Available on three wheelbases as is the case with 160 model. Vacuum tandem windshield wipers with boosters are standard. Considered as custom or luxury companion line to 160 model.

Packard has revised lubrication recommendations and now advises lubrication of main chassis points every 1000 miles instead of 2000 miles. These include knuckle pins, steering connecting rod, steering cross tubes, universal

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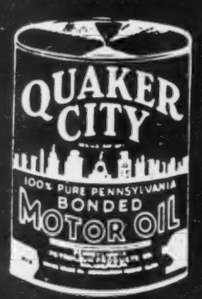

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NAME .....

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yoke spline, generator, starter motor, distributor, clutch and brake pedal and steering crank.

On crankcase oil change it is suggested a change be made at the end of the first 500 miles, thereafter 1000-2000 miles changes are recommended. Oil should be changed in accordance with temperature variations rather than according to seasons.

Lubrication every 10,000 miles is recommended for support arm pins at the front and this year there are 4 lubrication connections on these two pins, instead of 2 as last year; also front wheel bearings, transmission and overdrive, steering gear, rear axle.

Every 30,000 miles rear wheel bearings and universal journals should be repacked with No. 3 fiber grease and No. 2½ cup grease respectively. Inner ends of front support arms are mounted in Harris-type rubber bushings instead of the metal-cased type used in 1939 models. Rear ends of torque arms are yoke shaped and carried on rubber bushings instead of ball ends with detachable rubber covering used in 1939. Roll control or sway bar is now mounted at the front, rubber bushed at the frame ends.

Overdrive or Econo-Drive for 1940 models differs from that used in 1939, fundamental difference being that the centrifugal clutch, with its pawls, springs, etc., which formerly picked up the overdrive gear train, is omitted. The slotted hub, which carries the sun gear of the planetary train together with its sliding pawl and solenoid has now taken over the function of engaging and disengaging the overdrive. Car speeds at which the sliding pawl engages and disengages are determined by a separate centrifugal governor switch, mounted externally at the rear of the drive housing and driven from the speedometer drive gear. The new solenoid operates in exactly the opposite direction to the old one.

WILLYS-OVERLAND

The Willys line for 1940 includes four-door sedan, coupe and station wagon in both Speedway and Deluxe models. Overland models have been discontinued. Headlamps are streamlined into front fenders, but are not of the sealed-beam type. Running boards are optional. Steering post gearshifts are standard on the Deluxe, optional on the Speedway. Springs are softer, with clips lined with rubber to keep leaves together more evenly and eliminate squeaks and slapping of leaves.

Changes in the engine include a new type of sealing for the rear bearing, a new camshaft drive chain of double the life of the former type, and a counterweighted crankshaft. Compression ratio has been increased from 6.35 to 6.48 to 1, with increase to 6.81 optional, also aluminum head available to bring compression ratio to 7 to 1.

This year Willys has adopted a plain-type fully automatic downdraft carburetor with fixed jets.

Hydraulic brakes are standard equipment on all models.

Rear axle capacity is 1½ pints, S.A.E. 90 summer and winter; transmission 1 pint, same lube.

Engine oil capacity is 4 quarts, gasoline tank 10½ gallons, cooling system 11¾ quarts. Engine oil recommendation is S.A.E. 30 for above 90 degrees Fahr., S.A.E. 20 or 20W for minimum temperature of 32 degrees, 20W for minimum of 10 degrees, 10W for minimum of 10 below zero, and 10W plus 10 per cent kerosene for temperatures below this point.

Tire size on Speedway 16 by 5.00, on Deluxe 16 by 5.50; 28 pounds pressure.

Oil Burner Shipments Rise

N. P. N. News Bureau

WASHINGTON — Indicative of the business upturn of the current year, shipments of both distillate oil and heating oil burners show an increase over last year during the first six months of 1939. Figures for both, as released by the Census Bureau, follow:

	June 1939	June 1938	First Six Months 1938	First Six Months 1939
Dist. Oil Burners*	50,986	15,018	60,988	138,565
Oil Burners†	16,906	9,550	45,343	69,638

*Includes burners used in ranges, stoves, water heaters and space heaters.

†Burners using No. 1 grade or heavier, used for application to central heating plants for homes, apartment houses, office buildings, churches, theaters, etc.

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SOLVENT DEWAXED NEUTRALS

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closes tightly—YET—opens easily

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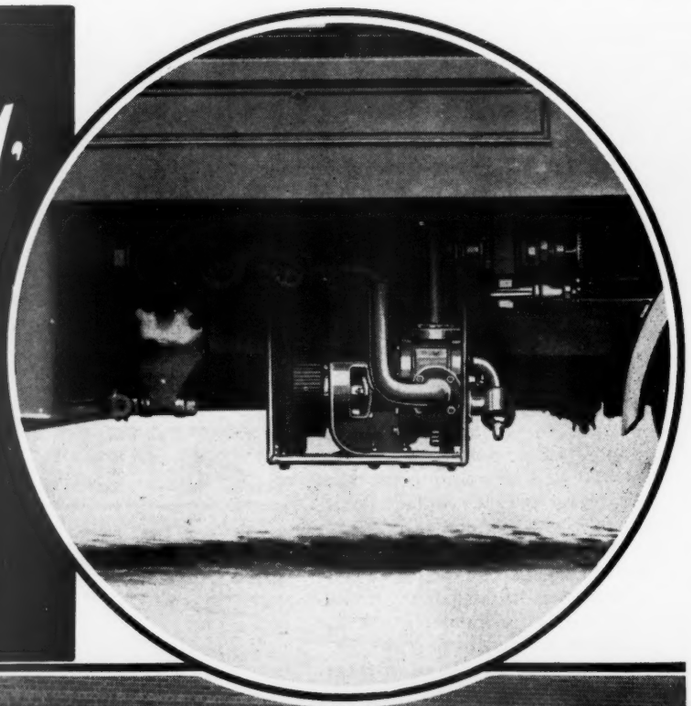


THE first touch of fall weather is sure to fill your plant with a flood of fuel oil delivery orders. When this happens, be sure your equipment is ready and you are all set to GO.

Your trucks, equipped with Viking Truck Mounting Pumps, will be better prepared to meet even the toughest delivery schedules. This new Viking is *rugged, accurate, dependable.* Its flexible casing simplifies installation . . . makes possible a wider selection of drive arrangements . . . assures a neater job of installing. A positive, sealed thrust bearing keeps out all dirt and water. The Viking relief valve on head is furnished as standard equipment.

Available in 35, 50, 90 and 200 GPM capacities, the Viking Truck Mounting Pump is ready for immediate shipment. Write, wire or phone.

VIKING Pump Company
CEDAR FALLS, IOWA

Markets

Mid-Continent

TULSA, Sept. 5. — Mid-Continent refiners reported that while gasoline stocks at the average small Mid-Continent refinery had been reduced to tank bottoms, the general overall motor fuel inventory picture had not been materially improved by the 15-day shutdown of oil wells in six states. By early this week, it was believed most refineries would be operating at near normal.

Available gasoline supplies were reported loosening up, with quotations generally reported at levels prevailing during the shutdown. Just what effect the European war would have on inland markets was uncertain, but it was conceded that suppliers probably would be more reluctant to offer gasoline.

Natural gasoline output was said to be back to normal at most plants late last week and the demand from a few Gulf Coast refiners in need of material was supplied at 4 cents, f.o.b. Breckenridge, according to reports. Sales also were reported during the week at 4 cents, f.o.b. Group 3.

Reduced quotations for kerosine that had caused both the 41-43 and 42-44 w.w. grades to slip off 0.125 cent in Oklahoma, were reported returned to former levels the past week.

Eastern

NEW YORK, Sept. 5. — Suppliers generally reported posting higher prices for kerosine at New York, Portland, Boston and Providence the past week, and one refiner also reported advancing his quotations for 60-64 octane and 65 and above octane gasoline 0.3 cent at New York, Wilmington, Charleston, Portland, Boston and Providence.

Most suppliers said they were reluctant to take on new business under prevailing conditions, and that they were limiting their commitments to contracts and previously booked orders. At the same time, some shading of current postings was reported at New York. At other points, posted prices were said to be firmly established.

Pennsylvania

CLEVELAND, Sept. 5. — With the growing threat and final outbreak of European war last week, demand for lubricating oils was described by western Pennsylvania refiners as almost "unprecedented".

One refiner said he had received inquiries for "2,000 or 3,000 tons" of bright stock which he had refused to quote on "at present prices". Other refiners reported receiving numerous inquiries, and several refiners, ordinarily sellers, were said to be in the market buying. Some refiners the past week said they were refusing to make any commitments at all on lubricating oils, while others said they were accepting orders for small amounts but none for delivery after October. Approximately 60,000 barrels of bright stock were said to have been sold in the past two weeks.

Advances of 0.5 to 1 cent a gallon for some grades of bright stock, neutral oil and cylinder stock, were reported by most refiners. No changes were reported in the low quotations for 25 pour test oils with 200 neutral at 18 to 19 cents, 150 neutral, 16 to 17 cents, and bright stock, 16.50 to 18 cents.

Aside from an 0.125-cent reduction in quotations for 45 w.w. kerosine and 36-40 fuel oil reported by an upper field refiner, prices for other products than lubricating oils were reported generally unchanged.

California

LOS ANGELES, Sept. 2. — Although California bulk petroleum suppliers believed an open break in European peace would mean higher prices, quotations and spot sales reported the past week were practically unchanged from previous levels.

Inquiry from Atlantic foreign buyers was practically non-existent and there was some concern about filling commitments which call for lifting from local ports for European points in the next few weeks. A bid of 4.50 cents a gallon on a cargo of 65 octane gasoline to Atlantic foreign interests a week ago failed to get the business, one supplier reported.

However, two cargoes of the same product were reported sold to Far Eastern buyers at a price close to 4.625 cents.

Apparently anticipating threats of a Pacific Coast maritime strike in the next few weeks, offshore buyers of kerosine in drums were reported active in the market. Japanese interests also were reported seeking quotations on 5 cargoes of lubricating stock.

Domestic prices reflected lower rack prices on some third grade gasolines offered by independent plants. An increase in the volume offered at 6.50 cents was reported and indications were that some goods had been purchased at less than this figure, although this could not be confirmed. A leaded, regular grade motor fuel was reported delivered to Los Angeles points in truck and trailer lots at 8 cents a gallon, or a refinery netback of 7.75 cents.

Gulf

NEW YORK, Sept. 5. — Conditions in the cargo market at the Gulf continued highly unsettled the last week in August, according to reports here and from the southwest, with conditions in Europe adding to the uncertainty caused by the oil field shutdowns and the general restoration of crude price schedules to levels posted prior to the Sinclair-Prairie reduction of Aug. 10.

Several foreign inquiries for gasoline, kerosine and other refined products were reported in the market, but refiners said they were either unable or unwilling to make commitments at this time. Such quotations as were reported by refiners were said to be largely nominal.

Three more refiners reported quoting various products with specifications conforming to those adopted recently by the Gulf Coast Refiners Ass'n.

Mid-Western

CHICAGO, Sept. 5.—Termination of oilfield shutdown orders in the Mid-Continent together with active jobber demand for gasoline in anticipation of heavy holiday motoring resulted in considerable activity in the Mid-Western market last week, according to reports of resellers here. Open spot sales of 18 cars of gasoline were reported by tank car marketers and refiners.

Most of the current gasoline movement is against contracts, it was said. Some refiners were limiting offerings of gasoline late in the week due to

(*Continued on page* 43)

N. P. N. Refinery Index

The Refinery Index shown below represents the return in cents per barrel (42 gallons) from refining a barrel of 36 gravity Mid-Continent crude into its various principal products. The index is calculated by subtracting the current price of crude at the well from the average price of refined products sold at current quoted Oklahoma refinery market prices.

Date	Margin
Sept. 1	56.8
Month ago	51.7
Year ago	39.0

N.P.N. Gasoline Index

	Dealer T.w. Cents per	Tank Car Gal.
Sept. 5	9.69	5.92
Month ago	9.70	5.68
Year ago	10.06	5.94

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 12 wholesale markets for regular-grade gasoline.

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days) unless otherwise stated. Prices in cents per gallon, except heavy fuel oils in dollars per barrel of 42 gallons, wax and petrolatums in cents per pound in barrels, tank car lots, FOB refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Gasoline

Prices Effective	Sept. 5	Aug. 28
OKLAHOMA		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.50 – 4.75	4.375– 4.75
63-66 oct.	4.75 –5.0625	4.75 –5.0625
67-69 oct.	4.75 – 5.25	4.75 – 5.25
70-72 oct.	5.25 – 5.50	5.25 – 5.50
60-62, 400 e.p.	(e)4.50	(e) 4.375–4.50
WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
Motor gasoline:		
U.S Motor (58-62°)	(e)4.625	(e) 4.625
Min. 65 oct.	(h) 6.25 –6.50	(h) 6.25 –6.50
"Q" gasoline	(h) 6.25 –6.50	(h) 6.25 –6.50
Other districts:		
Motor gasoline:		
U. S. Motor (58-62° gravity):	4.50 – 4.75	4.50
"Q" gasoline	6.00 – 6.25	6.00
CENTRAL MICHIGAN (a)		
Str.-Run Gasoline	4.50 – 4.625	4.50 – 4.625
U.S. Motor: (Octane L-3)		
67-69 octane	(e)6.25	(e)6.25
70-72 octane	(h)7.00	7.00 – 7.25

Prices Effective	Sept. 5	Aug. 28
CALIFORNIA (3c tax to be added if used in state)		
U. S. Motor:		
54-58 gravity, for in-state shipment	6.50 – 9.25	6.50 – 9.25
54-58 gravity, for out-side state shipment	6.50 – 9.00	6.50 – 9.00
58-61 gravity, 375-400 e.p., 65 oct. & above	7.75 – 9.75	7.75 – 9.75
N. TEX. (b)		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.50 – 4.75	(h) 4.50 –4.75
63-66 oct.	4.75 – 5.00	4.75 – 5.00
67-69 oct.	(h) 5.00 –5.25	(h) 5.00 –5.25
70-72 oct.	(h) 5.25 –5.625	(h) 5.25 –5.625
60-62, 400 e.p.	(h)4.50	(h)4.50
KANSAS For Kansas destinations only)		
U. S. Motor: (Octane L-3)		
62 oct. & below	(e)4.75	(e)4.75
67-69 octane	(e)5.00	(e)5.00
70-72 octane	(e)5.50	(e)5.50
W. TEX. (b)		
U. S. Motor: (Octane L-3)		
62 oct. & below	(h) 4.50 –4.75	(h) 4.50 –4.75
63-66 oct.	(h) 4.875–5.00	(h) 4.875–5.00
67-69 oct.	(h) 5.125–5.375	(h) 5.125–5.375
70-72 oct.	(h) 5.375–5.625	(h) 5.375–5.625

Prices Effective	Sept. 5	Aug. 28
CENTRAL WEST TEXAS (Prices to truck transports)		
U. S. Motor Gasoline: (Octane L-3)		
62 oct. & below	(h)4.50	(h) 4.25 –4.375
63-66 octane	(e)5.125	(e)5.00
66-70 octane	(e)5.25	(e)5.25
E. TEX.		
U. S. Motor Gasoline, (Octane L-3)		
70-72 oct.	(e)5.00	(e)5.00
60-62, 400 e.p.	(e)4.50	(e)4.50
N. LA. (For shipment to La. & Ark.)		
U. S. Motor: (Octane L-3)		
62 oct. & below	(h) 4.375–4.50	(e) 4.375–4.50
63-66 oct.	(e)4.625	(e)4.625
67-69 oct.	(e)4.875	(e)4.875
70-72 oct.	(e)5.25	(e)5.25
ARKANSAS (F.o.b. Ark. plant of one refiner, for shipment to Ark. & La.)		
U. S. Motor: (Octane L-3)		
62 octane & below	4.875	4.875
67-69 oct.	5.25	5.25
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
70-72 octane	7.375	7.375

(Continued on next page)

(a) Prices FOB. Central Michigan refinery group basis, for shipment within Mich. Shipments may originate at plants outside Central group. (b) For shipment to Texas and New Mexico destinations; Group 3 prices quoted for northern shipment. (c) Excluding Detroit shipment. (e) One refiner quoting. (f) Two suppliers quoting. (g) To re-sellers holding licenses. (h) Two refiners quoting. (i) No quotations reported. (j) Prices discontinued.

MID-WESTERN TANK CAR MARKET

Prices in this Midwestern Tank Car Market table are gathered from refiners and tank car marketers or brokers from their offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight rate basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Generally when prices are quoted in this Chicago market, the origin of the material is not known at the time the quotation is given, oftentimes even with the quoting refiners who have refineries in more than one refining district. All other gasoline prices are given by and for the particular refining district where the material is made and from which it is shipped.

Gasoline

Prices Effective	Sept. 5	Aug. 28
U. S. Motor: (Octane L-3)		
62 oct. and below	4.50 – 4.75	4.50 – 4.75
63-66 oct.	4.625– 4.875	(b)4.75
67-69 oct.	4.75 – 5.125	4.75 – 5.125
70-72 oct.	4.875– 5.375	5.125– 5.375

Kerosine

41-43 gravity, w.w.	3.375– 4.00	3.375– 4.00
42-44 gravity, w.w.	3.50 – 4.25	3.50 – 4.25

Fuel and Gas Oils

Prices Effective	Sept. 5	Aug. 28
No. 1 p.w.	3.25 – 3.75	3.25 – 3.75
No. 1 straw	3.25	3.25
No. 2 straw	3.125– 3.25	3.125– 3.25
No. 3	2.75 – 3.125	2.75 – 3.125
No. 5	$0.65	$0.65
No. 6	$0.35 –$0.45	$0.35 –$0.45
U. G. I. gas oil	(i)	(i)
Range oil	3.375– 3.875	3.375– 3.875

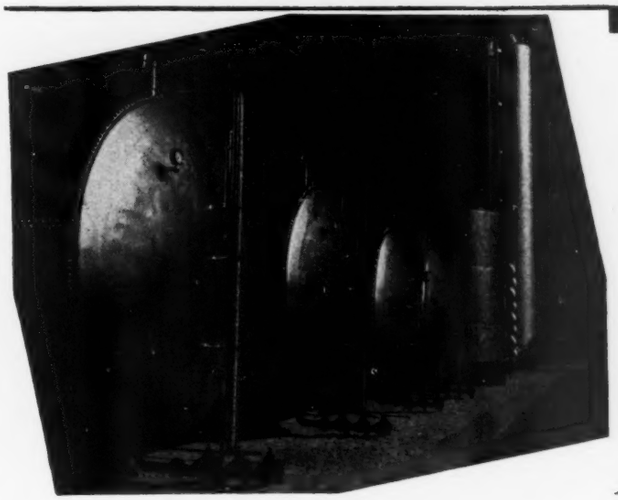
Chicago Naphtha and Solvent

Prices Effective	Sept. 5	Aug. 28
(FOB Group 3 as quoted by two Chicago sellers)		
Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	7.375	7.375

Daily range of gasoline prices as reported in PLATT'S OILGRAM (Week Ended Sept. 1, 1939)

	Aug. 28	Aug. 29	Aug. 30	Aug. 31	Sept. 1
U. S. Motor, (Octane Number determined according to L-3 Method in Okla., Texas and Mid-Western Districts):					
62 octane and below:					
Oklahoma	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
(a) North Texas	(c) 4.50 –4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
West Texas	(c) 4.50 –4.75	(c) 4.50 –4.75	(c) 4.50 –4.75	(c) 4.50 –4.75	(c) 4.50 –4.75
Mid-Western (Group 3 basis)	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
63-66 octane:					
Oklahoma	4.75 –5.0625	4.75 –5.0625	4.75 –5.0625	4.75 –5.0625	4.75 –5.0625
(a) North Texas	(c) 4.75 –5.00	(c) 4.75 –5.00	(c) 4.75 –5.00	(c) 4.75 –5.00	4.75 – 5.00
West Texas	(c) 4.875–5.00	(c) 4.875–5.00	(c) 4.875–5.00	(c) 4.875–5.00	(c) 4.875–5.00
Mid-Western (Group 3 basis)	(b)4.75	(b)4.75	(b)4.75	(b)4.75	4.625– 4.875
67-69 octane:					
Oklahoma	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
(a) North Texas	(c) 5.00 –5.25	(c) 5.00 –5.25	(c) 5.00 –5.25	(c) 5.00 –5.25	(c) 5.00 –5.25
West Texas	(c) 5.125–5.375	(c) 5.125–5.375	(c) 5.125–5.375	(c) 5.125–5.375	(c) 5.125–5.375
Mid-Western (Group 3 basis)	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125
70-72 octane:					
Oklahoma	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
(a) North Texas	(c) 5.25 –5.625	(c) 5.25 –5.625	(c) 5.25 –5.625	(c) 5.25 –5.625	(c) 5.25 –5.625
West Texas	(c) 5.375–5.625	(c) 5.375–5.625	(c) 5.375–5.625	(c) 5.375–5.625	(c) 5.375–5.625
East Texas	(b)5.00	(b)5.00	(b)5.00	(b)5.00	(b)5.00
Mid-Western (Group 3 basis)	5.125– 5.375	4.875– 5.375	4.875– 5.375	4.875– 5.375	4.875– 5.375
Motor Gasoline, 60-64 octane:					
New York harbor	5.75 – 6.15	5.75 – 6.15	5.75 – 6.20	5.75 – 6.20	5.75 – 6.20
Philadelphia district	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50
Baltimore district	(b)5.75	(b)5.75	(b)5.75	(b)5.75	(b)5.75
Motor Gasoline, 65 octane & above:					
New York harbor	6.00 – 6.25	6.00 – 6.25	6.00 – 6.45	6.00 – 6.45	6.00 – 6.45
Philadelphia district	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
Baltimore district	6.00 – 7.25	6.00 – 7.25	6.00 – 7.25	6.00 – 7.25	6.00 – 7.25
U. S. Motor, 58-62°:					
Bradford-Warren (Western Penna.)	(b)4.625	(b)4.625	(b)4.625	(b)4.625	(b)4.625
Other districts (Western Penna.)	4.50	4.50	4.50	4.50	4.50 – 4.75
Motor Gasoline, Min. 65 octane:					
Bradford-Warren (Western Penna.)	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50
"Q" Gasoline:					
Bradford-Warren (Western Penna.)	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50
Other Districts (Western Penna.)	6.00	6.00	6.00	6.00	6.00

(a) For shipment to Texas and New Mexico destinations: Group 3 prices are quoted on northern shipment. (b) One refiner quoting. (c) Two refiners quoting. (d) No quotations reported.



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By H. O. & R. Co.

THE PRIMARY PURPOSE of *Rust-Ban* is to protect your equipment against corrosion. Certain of the Rust-Ban products, however, have been developed to beautify as well as protect. As a result, equipment coated with these Rust-Ban products *looks good* and *stays good.*

Rust-Ban is not a single product but an extensive line of corrosion-preventing coatings for every branch of the petroleum industry. Each product is designed to fill specific needs. Ask how Rust-Ban can help you solve your corrosion problems. Write for information to your Rust-Ban marketer.

RUST-BAN IS SOLD: In Texas and New Mexico by *Humble Oil & Refining Co.*, Houston, Texas • In New York and New England by *Colonial Beacon Oil Co.* • In Pennsylvania by *Standard Oil Co. of Pennsylvania*, Philadelphia, Pennsylvania • In New Jersey, Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina and South Carolina by *Standard Oil Company of New Jersey*, New York City • In Oklahoma and Kansas and parts of Missouri by *The Carter Oil Company*, Tulsa, Oklahoma • In Arkansas, Louisiana, Tennessee by *Standard Oil Company of Louisiana*, New Orleans, Louisiana • In Kentucky, Georgia, Florida, Alabama, and Mississippi by *Standard Oil Company (Ky.)*, Louisville, Kentucky • In other states by *Penola Inc.*, Pittsburgh, Pennsylvania • In Canada by *Imperial Oil Ltd.*, Toronto, Canada.

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). Prices in cents per gallon except heavy fuel oils in dollars per barrel of 42 gallons, tank car lots, FOB refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included, unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Natural Gasoline

(Prices to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

Prices Effective	Sept. 5	Aug. 28
FOB GROUP 3		
Grade 26-70	(l)4.00	(l)4.00
FOB BRECKENRIDGE		
Grade 26-70	(l)4.00	(e) 4.00
CALIFORNIA (F.o.b. plants in Los Angeles basin) 75-85, 350-375 e.p. for blending	5.50 – 6.00	5.50 – 6.00

Kerosine

WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
45 gravity w.w.	4.75 – 4.875	4.875
46 gravity w.w.	(e)5.375	(e)5.375
Other districts:		
45 gravity w.w.	4.75 – 5.00	4.75 – 5.00
46 gravity w.w.	(h) 5.00 –5.125	(h) 5.00 –5.125
47 gravity w.w.	5.00 – 5.25	5.00 – 5.25
CENTRAL MICHIGAN (a)		
47-49 gravity w.w.	4.50 – 5.00	4.50 – 5.00
OKLAHOMA		
41-43 gravity w.w.	3.50 – 4.25	3.375– 4.25
42-44 gravity w.w.	3.625– 4.625	3.50 – 4.625
KANSAS (For Kansas destinations only)		
41-43 gravity w.w.	(e)4.125	(e)4.125
42-44 gravity w.w.	(e)4.375	(e)4.375
N. TEX. (b)		
41-43 gravity w.w.	(h)4.00	(h)4.00
N. LA. (For shipment to La. and Ark.)		
41-43 gravity w.w.	(h) 3.75 –4.00	(e) 3.75 –4.00
ARK. (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 gravity w.w.	4.25	4.25
CALIFORNIA		
40-43 gravity w.w.	4.50 – 6.00	4.50 – 6.00

Gas *and* Fuel Oils

WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
36-40 gravity	(h) 4.50 –4.625	(e)4.625
Other districts: (Excluding Pittsburgh District Prices)		
36-40 gravity	4.25	4.25
CENTRAL MICHIGAN (a)		
P.W. Distillate	4.25 – 4.50	4.25 – 4.50
No. 3 gas oil, Str.	3.75 – 4.25	3.75 – 4.25
U.G.I. gas oil	3.50 – 4.00	3.50 – 4.00
Fuel Oils (Vis. at 100):		
500-700 Vis.	(e)2.75	(e)2.75
300-500 Vis.	(e) 2.75 –3.00	(e) 2.75 –3.00
100-300 Vis.	(e) 3.00 –3.25	(e) 3.00 –3.25
OKLAHOMA		
No. 1 prime white	3.375– 3.75	3.25 – 3.75
No. 1 straw	(e)3.25	(n)
No. 2 straw	3.25 – 3.375	3.25 – 3.375
No. 2 dark	(h) 3.125–3.25	(e)3.25
U.G.I. gas oil	(e)3.00	(e)3.00
28-30 gravity fuel oil	(n)	(n)
28-30 gravity zero fuel	3.00 – 3.125	3.00 – 3.125
24-26 gravity fuel	(n)	(n)
14-16 gravity fuel	(e)$0.70	(n)
No. 6 fuel	(e)$0.45	(e)$0.45
Range oil	3.375– 3.625	3.375– 3.50
KANSAS (For Kans. destinations only).		
No. 1 p.w. fuel oil	(e)3.875	(e)3.875
10-14 gravity fuel oil	(e)$0.45	(e)$0.45
N. TEX. (b)		
No. 1 Prime white	(n)	(n)
N. LA. (For shipment to La. and Ark.)		
20-24 gravity fuel	(e) $0.95–$1.05	(e) $0.95–$1.05
16-20 gravity fuel	(e) $0.75–$0.85	(e) $0.75–$0.85
10-14 gravity fuel	(e) $0.65–$0.75	(e) $0.65–$0.75
ARK. (F.o.b. Ark. plant of one refiner, for shipment to Ark. and La.)		
No. 2 fuel	3.375	3.375
28-30 gravity gas oil, zero	3.125	3.125
Tractor Fuel	(j)4.625	(j)4.50

Prices Effective	Sept. 5	Aug. 28
CALIFORNIA		
San Joaquin Valley:		
Heavy fuel	$0.55 –$0.75	$0.55 –$0.75
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel (per gal.)	2.75 – 4.00	2.75 – 4.00
Stove dist. (per gal.)	3.00 – 5.00	3.00 – 5.00
Los Angeles:		
Heavy fuel	$0.55 –$0.90	$0.55 –$0.90
Light fuel	$0.65 –$1.00	$0.65 –$1.00
Diesel fuel (per gal.)	2.375– 4.00	2.25 – 4.00
Stove dist. (per gal.)	2.25 – 5.00	2.25 – 5.00
San Francisco:		
Heavy fuel	$0.95	$0.95
Light fuel	$1.05	$1.05
Diesel fuel (per gal.)	4.50	4.50
Stove dist. (per gal.)	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Neutral Oils

WESTERN PENNA REFINERY QUOTATIONS

Viscous Neutrals No. 3 col. (Viscosity at 70° F.)

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	(h)21.50	(h)21.00
10 p.t.	(h)20.50	(h)20.00
15 p.t.	(h)20.00	(h)19.50
25 p.t.	18.00 –19.50	18.00 –18.50
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	(h)19.00	(h)19.00–19.50
10 p.t.	(h)18.00	(h) 18.00–18.50
15 p.t.	(h)17.00	(h) 17.00–17.50
25 p.t.	16.00 –17.50	16.00 –17.00

SOUTH TEXAS

Vis	Color		
Pale Oils: (*Vis. at 100°F*)			
100	No. 1½-2½	4.50 – 5.00	4.50 – 5.00
200	No. 2-3	6.00	6.00
300	No. 2-3	6.50	6.50
500	No. 2½-3½	7.50	7.50
750	No. 3-4	8.00	8.00
1200	No. 3-4	8.375– 8.50	8.375– 8.50
2000	No. 4	8.50 – 9.00	8.50 – 9.00
Red Oils:			
200	No. 5-6	6.00	6.00
300	No. 5-6	6.50	6.50
500	No. 5-6	7.50	7.50
750	No. 5-6	8.00	8.00
1200	No. 5-6	8.375– 8.50	8.375– 8.50
2000	No. 5-6	8.50 – 9.00	8.50 – 9.00

Note: Red oil prices cover oils with green cast; blue cast red oils are slightly lower in some cases.

MID-CONTINENT (Vis. at 100° F.; F.o.b. Tulsa basis).

Pale Oils: (0 to 10 P.P.)		
Vis. Color		
60-85—No. 2	5.50	5.50
86-110—No. 2	6.00	6.00
150—No 3	9.00	9.00
180—No. 3	9.25 –10.00	9.25 –10.00
200—No. 3	9.75 –10.50	9.75 –10.50
250—No. 3	10.75 –11.50	10.75 –11.50
280—No. 3	12.50	12.50
300—No. 3	13.00	13.00
Red Oils:		
180—No. 5	(e)9.00	(e)9.00
200—No. 5	8.75 – 9.50	8.75 – 9.50
280—No. 5	(h) 11.50–11.75	(h) 11.50–11.75
300—No. 5	(h) 11.75–12.00	(h) 11.75–12.00

Note: The following oils, of 15 to 25 p.p., are generally quoted these amounts under 0-10 p.p.; viscous oils, 0.5c; non-viscous, 0.25c. Viscous oils (150-300 vis.), No. 4 color, generally are quoted 0.5c above No. 5 color oils.

CHICAGO (Vis. at 100° F.)

(e) Pale Oils 0 to 10 p.p.		
Vis. Color		
60-85—No. 2	7.25	7.25
86-110—No. 2	7.75	7.75
150—No. 3	9.00	9.00
180—No. 3	10.00	10.00
200—No. 3	10.50	10.50
250—No. 3	11.50	11.50

Prices Effective	Sept. 5	Aug. 28
CHICAGO (Continued)		
(e) Red Oils:		
180—No. 5	9.00	9.00
200—No. 5	9.50	9.50
250—No. 5	10.50	10.50
280—No. 5	11.50	11.50
300—No. 5	11.75	11.75

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower. To obtain delivered prices in Chicago, add 0.25c per gal.

Cylinder Stocks

MID-CONTINENT (F.o.b. Tulsa basis)

Bright Stocks:		
190-200 Vis. at 210° D.	(e)19.00	(e)19.00
150-160 Vis. at 210° D:		
0 to 10 p.p.	14.25 –16.00	14.25 –16.00
10 to 25 p.p.	13.50 –15.00	13.50 –15.00
25 to 40 p.p.	(h) 13.25–13.50	(h) 13.25–13.50
150-160 vis. at 210° E.	12.50 –14.50	12.50 –14.50
120 Vis. at 210° D:		
0 to 10 p.p.	(h) 13.75–14.50	(h) 13.75–14.50
25 to 40 p.p.	(e)12.75	(e)12.75
600 S.R. Dark Green	(e)5.50	(e)5.50
600 S.R. Olive Green	(h) 7.00 –7.50	(h) 7.00 –7.50
631 S.R.	(e)12.50	(e)12.50
Black Oil	(h) 3.50 –4.00	(h) 3.50 –4.00

(e) CHICAGO (Viscosity at 210°)		
Unfiltered Steam Refined:		
140	9.00	9.00
160	10.00	10.00
200	11.00	11.00
Bright stocks, 160 vis. at 210. No. 8 color:		
0 to 10 p.p.	15.75	15.75
15 to 25 p.p.	14.75	14.75
30 to 40 p.p.	14.25	14.25
E filtered Cyl. Stock	13.50	13.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

WESTERN PENNA. REFINERY QUOTATIONS		
600 S.R. filterable	9.00 –10.00	8.00 – 9.00
650 S.R.	11.00 –12.00	10.00 –11.00
600 fl.	11.50 –12.50	10.50 –12.00
630 fl.	14.00 –14.50	13.00 –14.00

Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:

10 p.t.	(h) 20.50–21.00	19.00 –21.00
15 p.t.	(h) 19.50–20.00	18.00 –20.00
25 p.t.	16.50 –18.00	16.50 –18.00

Petrolatums

WESTERN PENNA. (In bbls., carloads; in tank cars, 0.5c per lb. less. One refiner reports he equalizes freight with nearest refinery to destination).

Snow White	5.875– 6.125	5.875– 6.125
Lily White	4.875– 5.125	4.875– 5.125
Cream White	3.875– 4.125	3.875– 4.125
Light Amber	2.50	2.50
Amber	2.25	2.25
Red	(e)2.125	(e)2.125

Wax

WESTERN PENNA. REFINERY QUOTATIONS
In bbls., carloads, New York.

122-124 A.m.p., w.c. scale	(h)3.00	(h) 2.85 – 2.90
124-126 A.m.p., w.c. scale	(h)3.05	(h)2.90

OKLAHOMA (In bbls. or burlap bags, carloads)

124-126 A.m.p., w.c. scale	(h)3.00	(h)3.00

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)

Fully refined:		
122-124 (bags only)	3.90	3.90
125-127	4.00	4.00
127-129	4.35	4.35
130-132	4.65	4.65
132-134	4.90	4.90
135-137	5.65	5.65

(a) Prices FOB. Central Michigan refinery group basis, for shipment within Mich. Shipments may originate at plants outside Central group. (b) For shipment to Texas and New Mexico destinations: Group 3 prices quoted on northern shipments. (e) Excluding Detroit shipment. (e) One refiner quoting. (f) No quotations reported (g) To resellers holding licenses. (h) Two refiners quoting. (j) For shipment to Ark. points only. (k) Two suppliers quoting. (l) Quotations. (m) Sales. (n) No quotations reported.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for March 29, April 12, April 19 and June 7, 1939, or write to NPN. These prices in effect Sept. 4, 1939, as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Essolene
(*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	6 9	8 7	4	7
*Newark, N. J.	6 9	8 7	4	7
Annapolis, Md	7 85	9 35	5	8
Baltimore, Md	7 25	8 75	5	8
Cumberland, Md	8 65	11 15	5	10
Washington, D. C.	7 5	9	3	9 5
Danville, Va	8 45	10 95	6	12 9
Norfolk, Va	7 25	9 75	6	10 5
Petersburg, Va	7 55	10 05	6	11 7
Richmond, Va	7 55	10 05	6	10 7
Roanoke, Va	8 75	11 25	6	11
Charleston, W. Va.	8 05	10 55	6	12 6
Parkersburg, W. Va.	7 35	9 35	6	11 2
Wheeling, W. Va.	8 35	10 25	6	12 2
Charlotte, N. C.	8 4	10 9	7	11 8
Hickory, N. C.	8 95	11 45	7	12 3
Mt. Airy, N. C.	8 8	11 3	7	12 2
Raleigh, N. C.	8 15	10 65	7	11 5
Salisbury, N. C.	8 45	10 95	7	11 9
Charleston, S. C.	7 25	9 75	7	10 6
Columbia, S. C.	8 1	10 6	7	11 5
Spartanburg, S. C.	8 8	11 3	7	12 2

Discount to undivided dealers: thru territory, except New Jersey points, which see in "Note" below: Dealer t.w. price less 0.5c per gal.

*Effective Dec. 1, 1938, S. O. New Jersey posted a minimum retail resale price of 11.2c thru New Jersey, except Trenton area and Cumberland county.

Note: While the above posted prices continue at Atlantic City and Newark, N. J., dealers will pay a net price of 8.2c per gal. for Essolene. Dealers having pumps marked only Esso, Essolene and "Standard" White gasoline will pay 7.7c per gal. for Essolene.

Kerosine Discount: 1c off t.w. price or 25 gals., or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(*S. O. New York Division*)

Socony Mobilgas
(*Regular Grade*)

	Consumer Tank Car	"Split" Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Metropolitan N.Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	6.9	8.5	*5	7
Borough of Richmond (Staten Is.)	6.9	8.5	*5	7
Albany, N. Y.	6.9	9.2	5	7.25
Binghamton, N. Y.	8.2	10.4	5	8.25
Buffalo, N. Y.	7.5	8.5	5	7.75
Jamestown, N. Y.	7.2	8.8	5	7.5
Plattsburg, N. Y.	7.4	9.9	5	7.75
Rochester, N. Y.	7.8	9	5	8
Syracuse, N. Y.	7.4	9.4	5	7.50
Danbury, Conn.	7.6	9.6	4	8
Hartford, Conn.	7.2	9.3	4	6.75
New Haven, Conn.	7.1	9.1	4	6.25
Bangor, Me.	7.2	9.5	5	7.25
Portland, Me.	6.8	8.8	5	7.00
Boston, Mass.	6.8	8.25	4	6.75
Concord, N. H.	7.7	9.9	5	7.75
Lancaster, N. H.	8.5	10.9	5	8.75
Manchester, N. H.	7.5	9.5	5	7.50
Providence, R. I.	6.8	8.8	4	6.75
Burlington, Vt.	7.4	8.5	5	7.50
Rutland, Vt.	7.8	8.5	5	7.75

*Plus 2% city sales tax computed at time of each sale.

Discount to undivided dealers: 0.5c less than "split" dealer t.w.

Atlantic Refining

Atlantic White Flash Gasoline
(*Regular Grade*)

	Commercial Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	7	8.5	5	10
Pittsburgh	8	9.5	5	10.5
Allentown	7.5	9.0	5	10.5
Erie	8	9.5	5	10
Scranton	8	9.5	5	10.5
Altoona	8	10	5	10.5
Harrisburg	7.5	9	5	10.5
Williamsport	8	9.5	5	10.5
Dover, Del.	...	9	5	10.5
Wilmington	...	8 5	5	9 75
Boston, Mass.	...	8 5	4	6 25
Springfield, Mass.	...	9	4	6
Worcester, Mass.	...	9	4	7.5
Fall River, Mass.	...	8.5	4	7
Hartford, Conn.	...	9 3	4	6.5
New Haven, Conn.	...	9 1	4	7
Providence, R. I.	...	8 8	4	6.5
Atlantic City, N. J.	...	8 2	4	7
Camden, N. J.	...	8 1	4	7
Trenton, N. J.	...	8 2	4	7
Annapolis, Md	...	9 35	5	9 5
Baltimore, Md	...	8 75	5	8
Hagerstown, Md.	...	9 85	5	10
Richmond, Va.	...	10 05	6	10 7
Wilmington, N. C.	...	9 85	7	10 8
Brunswick, Ga.	...	7 5	7	*10 5
Jacksonville, Fla.	...	8	8	10

*Georgia has kerosine tax of 1c per gal., not included in above price.

Discount to undivided dealers: Dealer t.w. less 0.5c per gal. except in Georgia and Florida, dealer t.w. and undivided dealer price is same.

Discounts: At Scranton, Pa., 1c per gal. voluntary discount allowed to dealers only, effective July 8, 1939.

Kerosine discount: Thru Pennsylvania and Delaware, 2c per gal. off t.w. price on t.w. deliveries of 25 gals. or more at one time, effective since Oct. 29, 1936.

S. O. Ohio

Sohio X-70 Gasoline
(Regular Grade)

	Consumer T.W.	†Divided Dlr.	‡S.S.	Gasoline Taxes	Kerosine T.W.
Ohio, Statewide	10 5	9 5	12 5	5	*12
Akron	10 5	8 5	10 5	5	*8.5
Cincinnati	10 5	9	11 5	5	*12
Cleveland	10 5	9 5	12 5	5	*12
Columbus	10 5	9	11 5	5	*12
Dayton	10 5	9	11 5	5	*12
Marietta	10 5	9	11 5	5	*12
Portsmouth	10.5	9 5	12.5	5	*12
Toledo	10.5	8.5	11	5	*12
Youngstown	10.5	9	11.5	5	*11.5

Renown Gasoline
(Third Grade)

Ohio, Statewide	10 5	9 5	12 5	5	....
Akron	10 5	8.5	10 5	5	....
Cincinnati	10 5	9	11.5	5	....
Cleveland	10 5	9 5	12 5	5	....
Columbus	10 5	9	11 5	5	....
Dayton	10 5	9	11 5	5	....
Marietta	10 5	9	11 5	5	....
Portsmouth	10 5	9 5	12 5	5	....
Toledo	10 5	8 5	11	5	....
Youngstown	10.5	9	11.5	5	....

Note: Prices at other Ohio points may be obtained by writing NPN.

*Ohio has kerosine tax of 1c per gal., not included in above prices.

†This price also to authorized agents, exclusive of 0.5c rental.

‡Prices are at company-operated service stations.

Discount to undivided dealers: 0.5c less than divided dealer t.w.

S. O. Kentucky

Crown Gasoline
(*Regular Grade*)

	Consumer T.W.	Net Dlr.	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	11 5	8 5	6	9.5
Lexington, Ky.	13 5	10 5	6	10
Louisville, Ky.	12.5	9 5	6	9
Paducah, Ky.	11	8	6	9
Jackson, Miss.	12	9	7	*9
Vicksburg, Miss.	12	9	7	*8 5
Birmingham, Ala.	13	10	*8	8.5
Mobile, Ala.	12	9	*9	8.5
Montgomery, Ala.	13	10	*9	*9.5
Atlanta, Ga.	13	10	7	*8
Augusta, Ga.	13	10	7	*8
Macon, Ga.	13	10	7	*9
Savannah, Ga.	12	9	7	*7
Jacksonville, Fla.	12	9	8	8
Miami, Fla.	11.5	8.5	8	8
Pensacola, Fla.	12	9	*9	8
Tampa, Fla.	11.5	8.5	8	6.5

Kyso Gasoline
(*Third Grade*)

Covington, Ky.	10	7.5	6	....
Lexington, Ky.	12	9.5	6	....
Louisville, Ky.	11	8.5	6	....
Paducah, Ky.	8.5	6	6	....
Jackson, Miss.	10.5	8	7	....
Vicksburg, Miss.	10.5	8	7	....
Birmingham, Ala.	11	8 5	*8	....
Mobile, Ala.	9.5	7	*9	....
Montgomery, Ala.	11	8.5	*9	....
Atlanta, Ga.	10.5	8	7	....
Augusta, Ga.	11	8.5	7	....
Macon, Ga.	10.5	9	7	....
Savannah, Ga.	9.5	7	7	....
Jacksonville, Fla.	10.5	8	8	....
Miami, Fla.	9 5	7	8	....
Pensacola, Fla.	10.5	8	*9	....
Tampa, Fla.	10	7.5	8	....

Discounts to all tank wagon consumers: Effective Jan. 4, 1937, thru territory, on Crown gasoline, 3c per gal below consumer t.w. price; on Kyso, 2.5c below, regardless of quantity purchased, per month

Taxes: In the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery Ala. have kerosine taxes of 1c per gal., and Mississippi 0.5c, not included in above prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Dealer Prices Stanolind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	11.1	9 1	6 9	4	10
Decatur, Ill.	11.1	9 6	8 2	4	10
Joliet, Ill	11 1	9 6	8 1	4	10
Peoria, Ill.	11 1	9 6	9 1	4	10
Quincy, Ill.	10 9	9.4	8 9	4	9 8
Indianapolis, Ind.	11.8	10 3	8 9	5	*10 7
Evansville, Ind.	11.6	10 1	9 6	5	*10 5
South Bend, Ind.	12 1	10 6	9 6	5	*10
Detroit, Mich	9.6	8 1	7 6	4	7 1
Grand Rapids, Mich.	10	8 5	8	4	9 7
Saginaw, Mich.	11.8	9.3	8 6	4	9 3
Green Bay, Wis.	11 9	10 4	9 9	5	10
Milwaukee, Wis.	11 3	9 8	9 3	5	10.2
La Crosse, Wis.	11.5	10	9 5	5	10 4
Minneapolis-St. Paul	11.5	10	9 5	5	10 4
Duluth, Minn.	11 9	10 4	9 9	5	10.8
Mankato, Minn.	11.5	10	9 5	5	9 4
Des Moines, Ia.	10 9	9.4	7.4	4	*9.8
Davenport, Ia.	11.1	9 6	8 4	4	*10
Mason City, Ia.	11 3	9.8	6 9	4	*10 2
St. Louis, Mo	10.7	9 2	8	*4	8
Kansas City, Mo.	10.4	8 9	6 9	*4	8
St. Joseph, Mo.	10 4	8 9	8 4	4	7 9
Fargo, N. D.	12.7	11.2	10.7	5	11.6
Huron, S. D.	12	10.5	10	5	10 9
Wichita, Kans.	9.9	6.6	5.5	4	7.4

*Taxes: in the tax column is included these city and state gasoline taxes at following points: Kansas City, St. Joseph and St. Louis, 1c city tax. Kerosine taxes: Indiana has 4c, Iowa 3c per gal. state tax, not included in above prices.

S. O. Nebraska

Standard Red Crown Gasoline
(*Regular Grade*)

	T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha, Neb.	11.5	10	6	10.3
McCook	10 5	9.9	6	9
Norfolk	11	9 9	6	9
North Platte	12.3	10.8	6	11.1
Scottsbluff	12	9	6	11

S. O. Louisiana

Essolene
(*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark.	7.25	9 75	7 5	10
Alexandria, La.	6.75	9 25	8	*11 5
Baton Rouge, La.	6.75	9 25	8	*9 5
New Orleans, La.	6.75	9 25	*10	*9
Lake Charles, La.	6.75	9 25	8	*11 5
Shreveport, La.	5.5	8	8	*10
Lafayette, La.	7	9.5	8	*10
Bristol, Tenn.	10.25	9	8	13
Chattanooga, Tenn.	9.5	11.5	8	12
Knoxville, Tenn.	10	12.5	8	14.5
Memphis, Tenn.	8	10.5	8	11
Nashville, Tenn.	9	11.5	8	11

*Taxes: New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana has kerosine tax of 1c per gal.; in addition New Orleans has 1c parish tax, none of which are included in above prices.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon, figured on basis of 50 gallons per barrel:
Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida 1/8c; Illinois, 3/100c; Indiana, 1/5c per gal. in lots up to 25 bbls.; 2/25c per gal. in lots of 25 bbls. or more; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. lots of more than 50, in bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 3/100c.
kerosine inspection fee only: Iowa, 3/50c; Michigan, 1/5c per gal.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline do not include taxes; they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for March 29, April 12, April 19 and June 7, 1939, or write to NPN. These prices in effect Sept. 4, 1939, as posted by principal marketing companies at their headquarters offices, but subject to later correction.

Humble Oil & Refining Co.

Humble Motor Fuel
(Regular Grade)

	*T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
Dallas, Tex	9	13	5	8
Ft. Worth, Tex	9	13	5	7
Houston, Tex	9	13	5	8
San Antonio, Tex	9	13	5	8

Thriftane
(Leaded, 67 Octane, Purple Gasoline)

Dallas	7.5	11	5	
Ft. Worth	7.5	11	5	
Houston	8	11	5	
San Antonio	8	11	5	

U. S. Motor Gasoline
(Third Grade)

Dallas, Tex	7	..	5	
San Antonio, Tex	7		5	

*These tank wagon prices apply to all classes of dealers and consumers.

Continental Oil

Conoco Bronz-z-z (Regular Grade)

	††T.W.	Dealer	Gasoline Taxes	Kerosine ‡T.W.
Denver, Col	10.5	..	5	11.5
Grand Junction, Col	13.5	..	5	15
Pueblo, Col	11	..	5	9
Casper, Wyo	12.5	..	5	11.5
Cheyenne, Wyo	10.5	..	5	13
Billings, Mont	12.5	..	6	13
Butte, Mont	14	..	6	15.5
Great Falls, Mont	13.5	..	6	15.5
Helena, Mont	14.5	..	6	15.5
Salt Lake City, Utah	12.5	12.5	5	16
Boise, Ida	**14.6	*14.6	6	18
Twin Falls, Ida	**15.1	**15.1	6	18
Albuquerque, N. M	10.5	10.5	†6.5	10
Roswell, N. M	9	9	†6.5	8
Santa Fe, N. M	10.5	10.5	*7	10
Ft. Smith, Ark	9	..	5	7.5
Little Rock, Ark	9.25	..	7.5	8
Texarkana, Ark	9	..	5	8
Muskogee, Okla	8	..	5	7
Oklahoma City, Okla	7	..	5	6.5
Tulsa, Okla	8	..	5	7

Demand Gasoline
(Third Grade)

Denver, Col	9.5	..	5	....
Grand Junction, Col	12.5	..	5	....
Pueblo, Col	10	..	5	....
Casper, Wyo	11.5	..	5	....
Cheyenne, Wyo	9.5	..	5	....
Billings, Mont	11.5	..	6	....
Butte, Mont	11	..	6	....
Great Falls, Mont	10.5	..	6	....
Helena, Mont	13.5	..	6	....
Salt Lake City, Utah	11.5	11.5	5	....
Boise, Ida	**13.6	**13.6	6	....
Twin Falls, Ida	**14.1	**14.1	6	....
Albuquerque, N. M	8.5	8.5	†6.5	....
Roswell, N. M	8	8	†6.5	....
Santa Fe, N. M	9.5	9.5	*7	....
Ft. Smith, Ark	6.5	..	5	....
Little Rock, Ark	7	..	7.5	....
Texarkana, Ark	6.5	..	5	....
Muskogee, Okla	7	..	5	....
Oklahoma City, Okla	6.5	..	5	....
Tulsa, Okla	7	..	5	....

†Includes city tax of 0.5c.
*Includes 1c city tax.
‡Prices are in t.w. deliveries to consumers and dealers.
**Prices include 0.1c to cover 1-mill tax for toll bridges.
††T.w. prices in all states except Utah, Idaho and New Mexico are to consumers and dealers.

S. O. California

Standard Gasoline
(Regular Grade)

	T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
San Francisco, Cal	13.5	14.5	4	11.5
Los Angeles, Cal	13	14	4	10
Fresno, Cal	14.5	15.5	4	12.5
Phoenix, Ariz	14	15	6	*12.5
Reno, Nev	15.5	16.5	5	13.5
Portland, Ore	14	15	6	13.5
Seattle, Wash	14	15	6	†13.5
Spokane, Wash	15.5	16.5	6	†16.5
Tacoma, Wash	14	15	6	†13.5

Flight Gasoline
(Third Grade)

San Francisco, Cal	12	13	4	....
Los Angeles, Cal	11.5	12.5	4	....
Fresno, Cal	13	14	4	....
Reno, Nev	14	15	5	....
Phoenix, Ariz	11	12	6	....
Portland, Ore	12.5	13.5	6	....
Seattle, Wash	12.5	13.5	6	....
Spokane, Wash	13	14	6	....
Tacoma, Wash	12.5	13.5	6	....

*Arizona has kerosine tax of 5c per gal., not included in above prices.

†Washington has 0.25c per gal. tax on kerosine sales, not included in above prices.

Discount to 100% dealers, thru territory, off posted t.w. prices, on gasolines: on Standard Ethyl, Standard Gasoline and Stanavo Aviation, 3c per gal.; on Flight gasoline, 2c.

Canada

PRICES OF IMPERIAL OIL LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline
(Regular Grade)

	T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont	15	8	15.5
Toronto, Ont	15	8	15.5
Brandon, Man	21	7	22
Winnipeg, Man	19.5	7	20.5
Regina, Sask	19	7	21
Saskatoon, Sask	21.3	7	23.3
Edmonton, Alta	19.4	7	21.4
Calgary, Alta	16.5	7	18.5
Vancouver, B. C	16	7	23
Montreal, Que	14	8	14.5
St. John, N. B	13.5	10	17.5
Halifax, N. S	13.5	10	17.5

Discounts to undivided dealers, 1c off t.w. price, except Maritime Provinces where undivided dealers pay t.w. price. Divided dealers pay t.w. price, thru territory.

Aviation Gasoline

Following are tank car, tank wagon or dealer prices, as indicated, of aviation gasoline in several marketing territories.

S. O. OHIO
Thru Ohio
Esso Aviation

	Consumer T.W.	Gasoline Taxes
74 octane	15.5	5
80 octane	16.5	5
87 octane	17.5	5

Discounts: For delivery on contract to hangar operators and resellers: 2c below consumer posted t.w. price, shown above.

S. O. INDIANA
Stanavo Ethyl Aviation Gasoline
73 Octane Number

Chicago, Ill	14.9	
Detroit, Mich	16.5	4
Milwaukee, Wis	15.1	5
Minneapolis, Minn	15.3	5
St. Louis, Mo	14.5	3
Kansas City, Mo	14.2	*4
Fargo, N. D	16.5	4
Huron, S. D	15.8	5

*Includes 1c city tax.

HUMBLE OIL & REFINING CO.
74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex	8.5

CONTINENTAL OIL CO.
Conoco Special Gasoline

	T.W. & Dealer Price	Gasoline Taxes
Denver, Colo	15	5
Cheyenne, Wyo	15.5	5
Helena, Mont	22.5	6
Salt Lake City, Utah	18	5
Albuquerque, N. M	14	*6.5

*Includes city tax of 0.5c.

S. O. CALIFORNIA
Stanavo Aviation Gasoline

	T.W.	
Phoenix, Ariz	17.5	6
Los Angeles, Cal	15	4
San Francisco, Cal	15.5	4
Reno, Nev	17.5	5
Portland, Ore	16	6
Seattle, Wash	16	6
Spokane, Wash	19	6

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

S. O. NEW JERSEY

	Posted Tank Wagon Prices Mineral Spirits	V.M. & P.
Newark, N. J	11.5	15.5
Baltimore, Md	15.5	....
Washington, D. C	15	....

Discounts: Buyers taking following quantities at one time, get these discounts: Newark, 2c per gal. on 200 gals. or more; less than 200 gals., 0.5c higher price. Baltimore 2c off on 25 to 100 gals. and 3c on over 100 gals. Washington, 2c off to contract buyers.

SOCONY-VACUUM OIL CO.

Buffalo, N. Y	10.5	12
*New York City	9.5	10.5
Rochester, N. Y	12	12
Syracuse, N. Y	12	14.5
Boston, Mass	11	11
Bridgeport, Conn	11	11.5
Hartford, Conn	10.5	11
Providence, R. I	11	12

*Prices apply to consumers only in quantities over 1,000 gals. annually. For quantities under 1,000 gals. annually, add 0.5c per gal.

ATLANTIC REFINING CO.

Philadelphia, Pa	12	14.5
Lancaster, Pa	13.5	16
Pittsburgh, Pa	14.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V.M.&P. Naphtha apply also to Light Cleaners Naphtha.

Discounts: Philadelphia, 200 gals. or more at one time, 2c per gal. less. Lancaster, contract buyers taking 1,000 gals. or more per year, one drum up, 2c per gal. less; non-contract buyers, 200 gals. or more at one time, 2c per gal. less. Pittsburgh, 500 gals. or more at one time, 2c.

S. O. OHIO

	S.R. Solvent	V.M.&P. Naphtha
Thru Ohio	12.5	13.5

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers off t.w. price; 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals., 1.5c.

S. O. INDIANA
(Prices include state and federal taxes)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill	16.2	16.5	15.9
Detroit, Mich	19.2	18.2	19.7
Kansas City, Mo	13.9	14.9	14.4
St. Louis, Mo	14.2	15.2	12.9
Milwaukee, Wis	18.8	19.8	19.3
Minneapolis, Minn.	19	20	17.7

Note: All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10.5	9.5
New York Harbor	10	9
Philadelphia district	10.5	9
Boston	10.5	9.5
Providence	10.5	9.5
†Ohio points, delivered	8.5	*8

*This is on rubber solvent.
†In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.125c less than on V.M.&P.

Price Changes

Dates and amounts of changes. See table for full current prices.

Atlantic Refining—Kerosine:

Worcester t. w. up 0.5c, Aug. 29.

S. O. Kentucky—Crown Gasoline:

Atlanta cut 0.5c, Aug. 26.
Tampa cut 0.5c, Aug. 22.

Kyso Gasoline:

Atlanta cut 1c, Aug. 26.
Macon t. w. cut 1c, Aug. 24.
Tampa cut 0.5c, Aug. 22.
Savannah cut 0.5c, Aug. 23, instead of Aug. 8, to 9.5 t. w. and 7c dealer price.

S. O. Indiana—Stanolind Gasoline:

Des Moines dealer price cut 1.5c, June 22.

S. O. Nebraska—Red Crown Gasoline:

McCook dealer price up 2c, Aug. 29; up 1c, Sept. 1.

Continental Oil—Demand Gasoline:

Denver t. w. up 1.5c, Aug. 23.

Coming Meetings

Missouri Independent Oil Jobbers Assn., Missouri Hotel, Jefferson City, Mo., Sept. 11.

North American Gasoline Tax Conference, annual meeting, Nicolet Hotel, Minneapolis, Minn., Sept. 11 to 13.

Montana National Bituminous Conference, Sun Valley, Idaho, Sept. 11 to 14.

National Assn. of Petroleum Retailers, Des Moines, Iowa, Sept. 11 to 14.

American Chemical Society, 98th annual meeting, Boston, Mass., Sept. 11 to 15.

National Petroleum Assn., 37th annual meeting, Hotel Traymore, Atlantic City, N. J., Sept. 13, 14, 15.

Michigan Petroleum Assn., Park Place Hotel, Traverse City, Mich., Sept. 14, 15.

Oil Trades Assn., of New York, sports day, Pelham Country Club, Pelham, N. Y., Sept. 19.

West Virginia Oil & Natural Gas Assn., annual convention, Charleston, W. Va., Sept. 27, 28.

New Jersey Oil Traders Assn., fall outing, Sept. 28.

Society of Automotive Engineers, Hotel Schroeder, Milwaukee, Sept. 28, 29.

National Lubricating Grease Institute, Stevens Hotel, Chicago, Oct. 2, 3.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Galveston, Tex., Oct. 4, 5, 6.

Western Petroleum Refiners Assn., regional technical meeting, Allis Hotel, Wichita, Kansas., Oct. 5.

Texas Mid-Continent Oil & Gas Assn., 20th annual meeting and convention, Rice Hotel, Houston, Tex., Oct. 5, 6, 7.

Society of Automotive Engineers, National Aircraft production meeting. Biltmore Hotel, Los Angeles, Calif., Oct. 5, 6, 7.

American Gas Assn., annual convention, New York, Oct. 9, 10.

Indiana Independent Petroleum Assn., Hotel Severin, Indianapolis, Ind., Oct. 11.

National Safety Congress and Exposition, Convention Hall, Atlantic City, N. J., Oct. 16 to 20. Petroleum Section, Ambassador Hotel.

Society of Automotive Engineers, Annual dinner, Hotel Pennsylvania, New York, Oct. 16.

Independent Petroleum Assn., of America, 10th annual meeting, Ft. Worth, Tex., Oct. 18-20.

National Tax Conference, Palace Hotel, San Francisco, week of Oct. 16.

40th Annual National Automobile Show, Grand Central Palace, New York, week of Oct. 15.

National Stripper Well Assn., annual meeting, Blackstone Hotel, Ft. Worth, Tex., Oct. 17.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Los Angeles, Oct. 19, 20.

Western Petroleum Refiners Assn., regional technical meeting, Allis Hotel, Wichita, Kan., Oct. 5.

West Virginia Petroleum Assn., second annual meeting, Hotel Daniel Boone, Charleston, W. Va., Oct. 25.

Society of Automotive Engineers Transportation & Maintenance Meeting, Coronado Hotel, St. Louis, Mo., Oct. 26, 27.

Colorado Petroleum Industries Committee, annual convention, Shirley-Savoy Hotel, Denver, Oct. 27.

Western Petroleum Refiners Assn., regional technical meeting, Washington-Youree Hotel, Shreveport, La., Oct. 27.

Oil Trades Assn. of New York, annual banquet, Waldorf-Astoria Hotel, New York, Nov. 1.

Society of Automotive Engineers Fuel & Lubricants Meeting, Mayo Hotel, Tulsa, Okla., Nov. 2, 3.

American Institute of Mining and Metallurgical Engineers, Industrial Minerals Division, Tuscaloosa, Ala., Nov. 2 to 4.

National Motor Truck Show, Navy Pier, Chicago, Nov. 8-16.

American Petroleum Institute, 20th annual meeting, Stevens Hotel, Chicago, Nov. 13-17.

Twenty-Five Year Club of Petroleum Industry, first annual meeting and dinner, Stevens Hotel, Chicago, Nov. 14.

American Institute of Chemical Engineers, 32nd annual meeting, Providence-Biltmore Hotel, Providence, R. I., Nov. 15, 16, 17.

American Society of Mechanical Engineers, Philadelphia, Pa., Dec. 4 to 7.

17th Exposition of Chemical Industries, Grand Central Palace, New York, Dec. 4 to 9.

West Central Texas Oil & Gas Assn., Abilene, Tex., some time in December.

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Society of Automotive Engineers, Annual Meeting and Engineering Display, Book-Cadillac Hotel, Detroit, Jan. 15 to 19.

American Institute of Mining and Metallurgical Engineers, New York, Feb. 12 to 15.

Kentucky Petroleum Marketers Assn., 14th annual meeting and convention, Brown Hotel, Louisville, Ky., Feb. 14, 15.

Ohio Petroleum Marketers Assn., Deshler-Wallick Hotel, Columbus, O., Feb. 27, 28 and 29.

American Assn. of Petroleum Geologists, Stevens Hotel, Chicago, April 10, 11, 12.

American Petroleum Institute, Eastern District, Division of Production, Columbus, O., April 11, 12.

National Petroleum Assn., 37th semi-annual meeting, Hotel Cleveland, Cleveland, O., April 18, 19.

Natural Gasoline Assn. of America, 19th annual convention, Hotel Tulsa, Tulsa, May 15, 16, 17.

Employer Can Sell to Employes Only Those Items He Handles

MILWAUKEE, Sept. 5. — Wisconsin employers cannot sell gasoline or lubricating oil to employes unless these products are a part of the employer's regular line of business, Attorney General John Martin ruled in an opinion handed down last week.

The opinion was on the recently enacted law which prohibits an employer from selling merchandise to employes unless the merchandise is manufactured by or handled as part of the regular business of the employer, and was sought by Herbert Steffus, Milwaukee county district attorney.

Exempted by the law were the sale of a few items, such as safety clothing, that an employe would use in his work, and fuel. Retailers who had been pinched by the practice of employes buying at "wholesale" through their employers contended that "fuel" meant solid fuel. The opinion held that "fuel" exempted under the law does not mean gasoline or lubricating oil.

PHILADELPHIA, Sept. 1. — For the fourth year, Atlantic Refining Co. will take to the air on Saturday afternoon and holidays bringing eastern college football games to radio listeners. The company will broadcast 191 games from 74 stations this fall. The program includes the complete, or complete home schedules of 27 colleges on the Atlantic coast from Massachusetts to Florida and as far west as Columbus, Ohio.

TANK WAGON MARKETS, HEATING OILS

Prices in Effect Sept. 4, 1939

Following are posted tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

	No. 1	No. 2	No. 4
S. O. NEW JERSEY			
Atlantic City, N. J.	7.0	6.0	6.0
Newark	7.0	6.0	6.0
Annapolis, Md.	....	6.5	....
Baltimore	6.75	6.25	5.75
Washington, D. C.	7.00	6.50	6.50
Norfolk, Va.	7.0	6.0	6.0
Petersburg	7.25	6.25	....
Richmond	7.25	6.25	6.25
Charlotte, N. C.	8.75	7.5	....
Hickory	....	8	....
Raleigh	8.75	7.25	....
Charleston, S. C.	7.5	6.0	....
Columbia	8.4	7.0	....
Spartanburg	9.1	7.7	....

	Nos. 2 & 3	No. 4
SOCONY-VACUUM OIL CO. INC. (S. O. New York Division)		
New York City	6.00	6.00
Albany, N. Y.	6.00	5.50
Rochester, N. Y.	7.00	7.00
Boston, Mass.	6.00	6.00
Bangor, Me.	6.25	6.25
Manchester, N. H.	6.50	6.50
Burlington, Vt.	6.50	6.50
Hartford, Conn.	6.00	6.00
New Haven, Conn.	5.50	5.50
Providence, R. I.	5.75	5.75

Note: Prices for No. 1 fuel in Socony-Vacuum territory same as for kerosine which see in tank wagon table for various cities; prices change with kerosine.

ATLANTIC REFINING

Numbers	1	2	3	4	5	6
Phila., Pa.	7.75	6.0	6.0	6.0	3.75	3.00
Allentown, Pa.	8.5	6.5	6.5	6.5	....	....
Wilmington, Del.	7.75	5.5	5.5	5.5	....	....
Springfield, Mass.	6.0	5.75	....	....	....	....
Worcester, Mass.	7.5	5.75	....	5.75	....	....
Hartford, Conn.	6.5	6.0	....	6.0	....	....

	No. 1	No. 2	No. 3
S. O. OHIO			
Columbus Division and Cleveland	7.50	7.50	7.00
City of Lima	8.00	8.00	7.00
Rest of Ohio	8.00	8.00	7.50

Note: S. O. Ohio prices are for full compartment hose dumps, bucket dumps are 0.5c per gallon higher.

S. O. INDIANA
Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	(a)6.75	6.75
Indianapolis	....	(b)7.8
Detroit	....	7.1
Milwaukee	8.4	7.7
Minneapolis	7.8	7.8
St. Louis	7.7	(c)6.7
Kansas City	6.8	6.8

(a) For 400 gals. and over; 150 to 399 gals., 7.25c; 1 to 149 gals., 8.25c.
(b) Excluding 4c state tax.
(c) For 400 gals. & over; 100 to 399 gals., 7c; 1 to 99 gals., 8c.
Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine Cents per Cwt.	Gasoline-Kerosine Cents per gal. 6.6 lbs.	Distillate-Gas Oil-Fuel Oil Cents per Cwt.	Distillate-Gas Oil-Fuel Oil Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	53	3.498	42	3.108
Detroit, Mich.	64	4.224	51	3.774
Gd. Rapids, Mich.	62	4.092	50	3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Min'ap'ls-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
From Ponca City	13	*0.858	13	†0.858
Wichita				
From Tulsa	21	*1.386	21	†1.386
From Cushing	19	*1.254	19	†1.254

*This rate also includes distillate rate at 6.6 lbs. per gal.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

SEABOARD MARKETS, EXPORT AND COASTWISE

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). In cargo markets, spot shipment is 90 days. Prices in cents per gallon, except heavy fuel oil in dollars per barrel, in tank car lots, f.o.b. refineries or seaboard terminals in districts designated, unless otherwise noted. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Eastern Domestic

(Inter-refinery and export prices not included.)

MOTOR GASOLINE

Prices Effective	Sept. 5	
District:	60-64 Oct.	65 Oct. & Above
N. Y. harbor	5.75 – 6.20	6.00 – 6.45
(n) N. Y. harbor	5.75 – 6.15	5.75 – 6.00
Philadelphia	5.75 – 6.50	6.00 – 7.00
Baltimore	(n)5.75	6.00 – 7.25
Norfolk	6.125 – 6.375	6.25 – 7.25
Wilmington, N. C.	6.00 – 6.75	6.25 – 7.05
Charleston, S. C.	6.00 – 6.50	6.25 – 7.00
Savannah	5.75 – 6.375	6.25 – 6.75
Jacksonville	5.75 – 6.375	6.25 – 6.75
Portland		6.25 – 6.80
Boston	5.50 – 6.55	5.75 – 6.50
Providence	6.25 – 6.55	6.00 – 6.50

WATER WHITE KEROSINE

District:			
N. Y. harbor	4.50	Charleston	4.75-5.25
(n) N. Y. harbor	4.375	Savannah	5.00-5.125
Philadelphia	4.50 – 4.75	Jacksonville	5.00-5.125
Baltimore	4.75	Portland	4.625
Norfolk	4.75 – 4.875	Boston	4.50
Wilmington, N.C.	4.75 – 4.875	Providence	4.50

(b) FUEL OILS

	N. Y. harb.	N. Y. harb. barges
No. 1	4.50	4.375
Nos. 2-3	4.00 – 4.125	3.875 – 4.00
No. 4	3.875 – 4.125	3.75 – 4.00
No. 5	(m) $1.25	
No. 6	$1.05	

	Phila. dist.	Balt. dist.
No. 1	4.50 – 4.75	4.75
Nos. 2-3	4.25	4.25
No. 4	4.00 – 4.25	4.00 – 4.25
No. 5	$1.25	$1.25
No. 6	$1.05	$1.05

	Bost. dist.	Prov. dist.
No. 1	4.50	4.50
Nos. 2-3	4.125	4.00 – 4.125
No. 4	4.125	4.00 – 4.125
No. 5	$1.35	(n) $1.30
No. 6	$1.05	$1.05

District:	(c) Bunker C Fuel	(c) Diesel Oil
N. Y. harbor	$1.05	$1.65 -$1.70
Philadelphia	$1.05	$1.65
Baltimore	$1.05	$1.65
Norfolk	$1.05	$1.65
Charleston	$1.00	$1.65 -$1.75
Savannah	$1.00	$1.785
Jacksonville	$1.00	$1.785
Tampa	$0.95	$1.785
Portland	$1.05	$1.75
Boston	$1.05	$1.65
Providence	$1.05	$1.65 -$1.78$_5$

	Diesel Oil Shore Plants	Gas Oil 28-34 Gravity
New York harbor	4.00	4.00 – 4.375
Philadelphia dist.	4.25	4.25
Baltimore dist.	4.25	4.25
Norfolk dist.	4.25	4.25
Charleston dist.	4.25	4.25
Jacksonville dist.	4.25	
Tampa dist.	4.25	
Portland dist.	4.25	4.50
Boston dist.	4.125 – 4.25	4.125 – 4.25
Providence dist.	4.00 – 4.25	4.25

Pacific Export

(c) (Quotations are at seaboard, Los Angeles, in cargo lots, cents per gal., except where otherwise noted.)

Prices Effective	Sept. 5	Aug. 28
U. S. Motor, under 65 octane	4.25 – 4.375	4.25 – 4.375
400 e.p. blend, 65 octane minimum	4.50 – 4.625	4.50 – 4.625
390 e.p. blend, 66 oct.	4.625 – 4.75	4.625 – 4.75
390 e.p. blend, 68 oct.	4.75 – 4.875	4.75 – 4.875
375 e.p. blend, 70 oct.	4.875 – 5.25	4.875 – 5.25
(d) 38-40 gravity, w.w. kerosine	4.00 – 4.25	4.00 – 4.25
41-43 gravity, w.w. kerosine	4.25 – 4.50	4.25 – 4.50
44 gravity, w.w. kerosine	4.50 – 4.625	4.50 – 4.625
In Cargo lots, per bbl.		
Diesel fuel, 24 & above	$1.00 -$1.10	$1.00 -$1.10
Diesel fuel, under 24	$0.95 -$1.00	$0.95 -$1.00
(f) 30-34 gravity, diesel (gas oil)	$1.10 -$1.20	$1.10 -$1.20
(g) Grade C fuel oil	$0.60 -$0.65	$0.60 -$0.65

Prices Effective	Sept. 5	Aug. 28
In Ships' Bunkers, or deep tank lots, per bbl.:		
(f) Diesel fuel oil	$1.35 -$1.45	$1.35 -$1.45
(g) Grade C fuel oil	$0.70 -$0.90	$0.70 -$0.90
Cased Goods: (Per case		
U. S. Motor	$1.35 -$1.45	$1.35 -$1.45
400 e.p. blend, under 65 octane	$1.40 -$1.50	$1.40 -$1.50
375-400 e.p. blend, 65 oct. & above	$1.50 -$1.60	$1.50 -$1.60
(d) 40-43 gravity, w.w. kerosine	$1.30 -$1.40	$1.30 -$1.40
Kerosine, p.w.	$1.25 -$1.35	$1.25 -$1.35

New York Export

(Cents per gal. in bbls. FAS, New York)

CYLINDER OILS (Pennsylvania Products)

Bright stock:		
Light, 25 p.t.	24.00 -25.50	24.00 -25.50
Neutral oil:		
200 3 color, 25 p.t.	25.50 -26.50	25.50 -26.00
150 3 color, 25 p.t.	23.50 -24.50	23.50 -24.50
600 s.r., unfiltered	16.50 -17.50	15.50 -16.50
650 s.r., unfiltered	18.50 -19.00	17.50 -18.50
600 fl., s.r.	19.00 -20.00	18.00 -19.50
630 fl., s.r.	21.00 -22.00	20.50 -21.50

Wax, Domestic *and* Export

(A.S.T.M. Tests. Meltin[g] points, however, are A.M.P., 3 higher than E.M.P. Export prices, FAS., carloads. Domestic prices, FOB refineries, in bags, carloads, with 0.2c discount allowed for shipment in bulk, except where noted below. Scale solid; fully refined, slabs in bags)

Prices Effective	Sept. 5	
	New York	
	Domestic	Export
124-6 Y.C. scale	2.80 – 2.85	2.80 – 2.85
122-4 W.C. scale	2.85 – 2.90	2.85 – 2.90
124-6 W.C. scale	2.85 – 2.90	2.85 – 2.90
123-5 Fully rfd.	3.75 – 4.00	3.625
125-7 Fully rfd.	(h) 3.90 -4.15	3.75
128-30 Fully rfd.	(h) 4.00 -4.25	4.00
130-2 Fully rfd.	(h) 4.35 -4.60	4.25
133-5 Fully rfd.	(h) 4.65 -4.90	4.65
135-7 Fully rfd.	(h)5.15	5.00
	New Orleans	
	Domestic	Export
124-6 Y.C. scale	2.80 – 2.85	2.80 – 2.85
122-4 W.C. scale	2.85 – 2.90	2.85 – 2.90
124-6 W.C. scale	2.85 – 2.90	2.85 – 2.90
123-5 Fully rfd.	3.75 – 4.00	3.625
125-7 Fully rfd.	(h) 3.90 -4.15	3.75
128-30 Fully rfd.	(h) 4.00 -4.25	4.00
130-2 Fully rfd.	(h) 4.35 -4.60	4.25
133-5 Fully rfd.	(h) 4.65 -4.90	4.65

Gulf Coast

(FOB. ship at Gulf for domestic and export shipment; minimum 20,000 bbls.; representing traders' opinions)

Prices as quoted by GCRA refiners follow:

Sept. 5

GCRA Motor Fuels

65 octane (CFR) unleaded	5.25 – 5.50
68 octane (CFR) unleaded	5.50 – 5.75
70 octane (CFR) unleaded	(p) 5.625-5.75
72-74 octane (CFR) unleaded	(n)6.00
72-74 octane (L-3) leaded	5.75 – 6.00

GCRA Kerosine & Gas Oils

Kerosine	(p)4.00
43 or below diesel index gas oil	(n)3.50
43-47 diesel index gas oil	(p)3.625
48-52 diesel index gas oil	3.75
53-57 diesel index gas oil	(p)3.875
58 & above	(p)4.00

Prices as quoted by refiners for other products follow:

MOTOR GASOLINE

Sept. 5

	60-62 Gravity, 400 e.p.	61-63 Gravity, 390 e.p.	64-66 Gravity, 375 e.p.
60 octane	4.50 -4.875	(n)4.625	(n)4.75
65 octane	(n)4.75	(n)4.875	(n)5.00
67 octane	(o)	(o)	(o)
68 octane	(n)5.50	(o)	(o)
70 octane	(p)5.00 -5.25	(p)5.125-5.25	(p)5.25
72-74 oct.	5.25 – 5.75	(p)5.375-5.50	(p)5.50

Prices Effective	Sept. 5	Aug. 28
KEROSINE		
44 gravity, w.w.	(n) 3.75 -3.875	(n)4.00
41-43 gravity, w.w.	(p) 3.50 -3.625	3.50 – 3.875
41-43 gravity, p.w.	(o)	(n) 3.75 -3.875
GAS OILS		
Gas Oil (i):		
Below 43 diesel index	(o)	(n)3.375
43-47 diesel index	(n)3.375	(p&r) -3.375
48-52 diesel index	(o)	(p) 3.625-3.75
53-57 diesel index	(o)	(n)3.625
58 & above	(o)	(n)3.75
LIGHT FUEL OILS		
No. 1	(o)	(o)
No. 2	3.375 – 3.75	3.375 – 3.75
DIESEL and BUNKER OILS		
(c) Diesel Oil	$1.45	$1.45
(c) Grade C bunker oil	$0.80 -$0.85	$0.80
Grade C bunker oil, in cargoes	$0.78 -$0.80	$0.78 -$0.80

MID-CONTINENT LUBRICATING OILS

(Cents per gal. at Gulf; in bbls., FAS.; in bulk, FOB. terminals)

	Sept. 5 (j) Barrels	Bulk
190-200 vis. D. 210 brt. stock	(n)22.50	18.80
150-160 vis. D 210 brt. stock:		
0-10 p.p.	(n)19.00	15.30
10-25 p.p.	(n)18.50	14.80
150-160 vis. E. 210 brt. stock	18.50	14.80
120 vis. D 210 brt. stock	(o)	(o)
	Sept. 5 Bulk	**Aug. 28 Bulk**
180 vis. No. 3 color neutral:		
0-10 p.p.	(n)9.80	10.05 -11.50
15-30 p.p.	(n)9.30	9.55 -11.00
200 vis. No. 3 color neutral:		
0-10 p.p.	(n)10.30	10.80 -12.00
15-30 p.p.	(n)9.80	10.30 -11.50
600 s.r. olive green	(o)	9.00 -11.25
600 s.r. dark green	(o)	7.00 – 9.25

SOUTH TEXAS LUBRICATING OILS

(Vis. at 100° cold test 0, bulk export shipment, FOB terminals.)

Unfiltered Pale Oils:

Vis.	Color		
100	No. 3	4.50	4.50
200	No. 3	6.00	6.00
300	No. 3	6.50	6.50
500	No. 3½	7.50	7.50
750	No. 4	8.00	8.00
1200	No. 4	8.375	8.375
2000	No. 4	8.50	8.50

Red Oils:

Vis.	Color		
100	No. 5-6	4.50	4.50
200	No. 5-6	6.00	6.00
300	No. 5-6	6.50	6.50
500	No. 5-6	7.50	7.50
750	No. 5-6	8.00	8.00
1200	No. 5-6	8.375	8.375
2000	No. 5-6	8.50	8.50

Note: Red oil prices cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate freight rates to Continental ports shillings per ton of 2240 lbs., British sterling; U. S. ports cents per bbl.)

Rates Effective Sept. 5

	Crude &/or Fuel		Refined Oil &/or Spirits	
	Last Paid	Owners Ask	Last Paid	Owners Ask
Gulf-U.K. Cont.(k)	(q)9/3	(q)9/6 to 10/-	(q)10/3	(q)10/6 to 11/-
Aruba-U.K./Cont. (k)	(q)9/-	(q)9/- to 9/6	9/3	9/6 to 10/-
Gulf-N. Atlantic(l) (not E. of N.Y.): Hvy. Crude & fuel, (10 to 19.9 gravity)	17c	17c	....	....
Light Crude, (30 Grav. or Lighter)	(q)15c	15c	....	....
Gasoline	....	....	14.5c	15c
Kerosine	....	....	15c	(q)16c
Light Fuel	....	....	16c	(q)17c

(a) In barge lots. (b) Fuel oils meet specifications of U. S. Commercial standards CS12-35. (c) Ships' bunkers. Lighterage, additional at some points, not included. (d) 150 fire point. (e) For San Francisco cargo prices, add 3c per bbl. to cargo prices shown above. (f) Pacific Specification 200. (g) Pacific Specification 400. (h) Shipment in bags or in bulk. (i) Less than ½ of 1% sulfur. (j) Second-hand barrels. (k) Continental ports in range between Bordeaux and Hamburg, both inclusive. (l) Venezuela loading, same rate: Tampico, 2c to 3c per bbl. additional. (m) Low pour test, low viscosity, No. 5 generally quoted at $1.35. (n) One refiner quoting. (o) No prices reported. (p) Two refiners quoting. (q) Correction: Correct rates for Aug. 28 on these products were, instead of those published on page 52 of Aug. 30 issue: Gulf-U.K./Cont., crude &/or fuel oil, last paid, 9/3; owners ask, 9/6 to 10/-; refined oils &/or spirits, last paid, 10/3; owners ask, 10/6 to 11/-, Aruba-U.K. Cont., crude &/or fuel, last paid, 9/-; owners ask, 9/- to 9/6. Correct rates for Aug. 28, Aug. 21 and Aug. 14 on these products are: Gulf-N. Atlantic, light crude, last paid, 15c; kerosine, owners ask, 16c; and light fuel, owners ask, 17c. (r) Correction: This is correct price for Aug. 28.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency

(Effective March 6, 1939, except Corning Jan. 24, 1939)

Penna. Grade Oil in Southwest Penna. Pipe Lines $1.65
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) $1.59
Penna. Grade Oil in Buckeye Pipe Lines (Mackaburg, O.) $1.55
Corning Oil in Buckeye Pipe Lines (Ohio) .. $1.02

Posted by Other Companies

Tide Water Associated Oil Co.
Bradford-Allegany district (Penna. and N. Y.) (Effective March 6, 1939) $2.00
*The Pennzoil Co.: (Effective March 6, 1939)
Penna. Grade Oil in National Transit Lines *1.93
*The Pennzoil Co. posts $1.93 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields, prices in other lower districts range down to $1.88 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co.

Midland, Midland County (April 17, 1939) ... $0.975

Posted by Simrall Corp.

(Effective April 20, 1939)

Crystal, Greendale, Porter and Wise $0.975
Beaverton, Buckeye, Bentley, Edenville $0.95
Freeman $0.89

(Effective April 18, 1939)

West Branch, Arenac, and equal grades $0.74

Posted by Bay Pipe Line Corp.

(Effective April 20, 1939)

Bentley and Buckeye $0.95
Saginaw and Wise $0.975

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

(Effective June 8, 1939)

Illinois and Western Indiana $0.95
Illinois Basin $1.05

Posted by Sohio Corp.

Illinois Basin:

(Effective Aug. 16, 1939)

Salem-Lake Centralia $0.85

(Effective June 8, 1939)

Balance of Illinois Basin $1.05

(Effective July 15, 1939)

Griffin (Ind.) pool, sand wells $0.85
Griffin (Ind.) pool, McCloskey lime $0.80

Posted by Carter Oil Co.

(Effective June 10, 1939)

Louden, Fayette County, Ill. $1.05

Posted by Ashland Oil & Transportation Co.

(Effective June 9, 1939)

Somerset Oil in Ashland Lines, Kentucky:
Big Sandy River $1.02
Kentucky River $1.10

Posted by Stoll Oil Refining Co.

(Effective June 10, 1939)

Stoll Pipe Line Oil (Ky.) $0.90

Posted by Fordsville Gathering Line, Inc.

Western Kentucky

(Effective June 9, 1939)

Birk City Area $0.90
Owensboro Area $1.00
Corydon Area (Henderson) $0.90

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario

(Effective Oct. 25, 1938)

Petrolia $1.90
Oil Springs $1.97

Alberta—Turner Valley

(Prices f.o.b. field tankage)

(Effective Jan. 5, 1938)

Crude Oil			
40-40.9°	$1.14	53-53.9	$1.40
41-41.9	1.16	54-54.9	1.42
42-42.9	1.18	55-55.9	1.44
43-43.9	1.20	56-56.9	1.46
44-44.9	1.22	57-57.9	1.48
45-45.9	1.24	58-58.9	1.50
46-46.9	1.26	59-59.9	1.52
47-47.9	1.28	60-60.9	1.54
48-48.9	1.30	61-61.9	1.56
49-49.9	1.32	62-62.9	1.58
50-50.9	1.34	63-63.9	1.60
51-51.9	1.36	64-64.9	1.62
52-52.9	1.38		

Crude Naphtha, 65 grav. & above $2.14

Absorption Gasoline	
90% Rec., 20 lb. Reid v.p.	$1.94
90% Rec., 17 lb. Reid v.p.	$2.08

MID-CONTINENT

Oklahoma-Kansas

*(For effective dates, see footnote)

	S. O. Indiana	Carter Mag-nolia Shell	Conti-nental Texas Co.	†Sin-clair Prairie
Below 21°	$0.70	$0.60	....	....
21-21.9	.72	.63	....	....
22-22.9	.74	.66	....	....
23-23.9	.76	.69	....	....
24-24.9	.78	.72	....	....
25-25.9	.80	.75	....	$0.58
26-26.9	.82	.78	....	.63
27-27.9	.84	.81	....	.68
28-28.9	.86	.84	$0.86	.73
29-29.9	.88	.87	.88	.78
30-30.9	.90	.90	.90	.82
31-31.9	.92	.92	.92	.86
32-32.9	.94	.94	.94	.90
33-33.9	.96	.96	.96	.96
34-34.9	.98	.98	.98	.98
35-35.9	1.00	1.00	1.00	1.00
36-36.9	1.02	1.02	1.02	1.02
37-37.9	1.04	1.04	1.04	1.04
38-38.9	1.06	1.06	1.06	1.06
39-39.9	1.08	1.08	1.08	1.08
40 & above	1.10	1.10	1.10	1.10

*Effective in 1938 by Carter Oil, Oct. 13, posting in Okla. only. Continental Oil Oct. 11, with lowest grade below 29; Magnolia, Oct. 12, posting in Okla. only; Shell, Oct. 22; S. O. Indiana, Oct. 17; The Texas Co., Oct. 12. Aug. 31, 1939, by Sinclair Prairie.

North-North Central and Central Texas

*(For effective dates, see footnote)

	Stano-lind	Sinclair Prairie	Texas Co. Conti-nental Magnolia
Below 21°	$0.60	....	....
21-21.9	.62	....	....
22-22.9	.64	....	....
23-23.9	.66	....	....
24-24.9	.68	$0.76	$0.79
25-25.9	.70	for	for
26-26.9	.72	oil	oil
27-27.9	.74	below	below
28-28.9	.76	29°	29°.
29-29.9	.78	.78	.81
30-30.9	.80	.80	.83
31-31.9	.82	.82	.85
32-32.9	.84	.84	.87
33-33.9	.86	.86	.89
34-34.9	.88	.88	.91
35-35.9	.90	.90	.93
36-36.9	.92	.92	.95
37-37.9	.94	.94	.97
38-38.9	.96	.96	.99
39-39.9	.98	.98	1.01
40 & above	1.00	1.00	1.03

*Effective Oct. 11, 1938 by Continental, in North Tex.; Oct. 12, 1938, by Texas Co. in North & North Central Texas. Texas Co.'s lowest grade is 28-28.9, at $0.79; by Magnolia, Dec. 3, 1938, in N. and N. Central Texas; Aug. 31, 1939 by Sinclair Prairie in Mexia and N. Cent. Texas.

Jefferson County, Texas—Beaumont

(Posted by Magnolia Petroleum Co., Effective Oct. 12, 1938, and by Stanolind Oil & Gas Co., in West Beaumont, Effective Aug. 29, 1939)

Below 20°	$0.79	30-30.9	$1.08
20-20.9	.82	31-31.9	1.10
21-21.9	.85	32-32.9	1.12
22-22.9	.88	33-33.9	1.14
23-23.9	.91	34-34.9	1.16
24-24.9	.94	35-35.9	1.18
25-25.9	.97	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

TEXAS FIELDS

Posted by Humble Oil & Refining Co.

**West Central Texas*

(Effective Aug. 11, 1939)

24-24.9	$0.71	33-33.9	$0.89
25-25.9	.73	34-34.9	.91
26-26.9	.75	35-35.9	.93
27-27.9	.77	36-36.9	.95
28-28.9	.79	37-37.9	.97
29-29.9	.81	38-38.9	.99
30-30.9	.83	39-39.9	1.01
31-31.9	.85	40 & above	1.03
32-32.9	.87		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young Counties.

Note: Effective Oct. 1, 1937, Humble prices are based on 100% tank tables at 60F.

**East Central Texas*

(Effective Aug. 11, 1939)

23-23.9	$0.78	32-32.9	$0.96
24-24.9	.80	33-33.9	.98
25-25.9	.82	34-34.9	1.00
26-26.9	.84	35-35.9	1.02
27-27.9	.86	36-36.9	1.04
28-28.9	.88	37-37.9	1.06
29-29.9	.90	38-38.9	1.08
30-30.9	.92	39-39.9	1.10
31-31.9	.94	40 and above	1.12

Posted by Pan American Pipe Line Co.

(Effective Feb. 15, 1939)

Cayuga, Anderson county $0.68

*Including Anderson, Cherokee, Limestone, Navarro counties.

PANHANDLE TEXAS

Posted by Humble Oil & Refining Co.

(Effective Aug. 11, 1939)

	Gray County	Carson-Hutchinson
28-28.9	$0.72	$0.67
29-29.9	.74	.69
30-30.9	.76	.71
31-31.9	.78	.73
32-32.9	.80	.75
33-33.9	.82	.77
34-34.9	.84	.79
35-35.9	.86	.81
36-36.9	.88	.83
37-37.9	.90	.85
38-38.9	.92	.87
39-39.9	.94	.89
40 & above	.96	.91

Effective Aug. 31, 1939, Sinclair Prairie met Humble in Panhandle Texas. Dec. 3, 1938, Magnolia met Humble.

*EAST TEXAS

By Humble, Stanolind, Gulf, Magnolia, Texas Co. $1.10
Tide Water-Associated $0.90

*Effective dates: Aug. 11, 1939, by Humble and Tide Water-Associated; Aug. 29, 1939, by Stanolind; Oct. 12, 1938, by Magnolia, Texas Co.; Oct. 13, by Gulf.

*EAST TEXAS

Posted by Sinclair Prairie Oil Marketing Co.

(Effective Aug. 31, 1939)

Below 33	$0.96	36-36.9	$1.04
33-33.9	.98	37-37.9	1.06
34-34.9	1.00	38-38.9	1.08
35-35.9	1.02	39 & above	1.10

*Includes Cherokee, Gregg, Rusk, Smith and Upshur counties.

*East Texas, and Livingston and Schwab-Wilcox Areas of Polk County, Tex.

Posted by Shell Oil Co., Inc.

(Effective Aug. 29, 1939)

Below 34	$0.98	37-37.9	$1.06
34-34.9	1.00	38-38.9	1.08
35-35.9	1.02	39 & above	1.10
36-36.9	1.04		

NORTHEAST TEXAS

(Posted by Humble, Aug. 11, 1939)

Talco $0.55

(Posted by Magnolia, Oct. 12, 1938)

Cass County and Panola County, Tex.:

Magnolia posts below 25° at $0.73, plus 2c differential for each degree, to top grade of 40 & above, at $1.05.

(Posted by The Texas Co., Oct. 12, 1938)

Cass County $1.05

WEST TEXAS and NEW MEXICO

(a) (For effective dates, see footnote)

	(c) Humble Sinclair Prairie	(b) Magnolia Stano-lind	Shell	Texas Co.
Below 20°	$0.53	....	$0.53	....
20-20.9	.55	....	.55	....
21-21.9	.57	....	.57	....
22-22.9	.59	....	.59	....
23-23.9	.61	....	.61	....
24-24.9	.63	....	.63	....
25-25.9	.65	....	.65	$0.65
26-26.9	.67	$0.67	.67	.67
27-27.9	.69	.69	.69	.69
28-28.9	.71	.71	.71	.71
29-29.9	.73	.73	.73	.73
30-30.9	.75	.75	.75	.75
31-31.9	.77	.77	.77	.77
32-32.9	.79	.79	.79	.79
33-33.9	.81	.81	.81	.81
34-34.9	.83	.83	.83	.83
35-35.9	.85	.85	.85	.85
36-36.9	.87	.87	.87	.87
37-37.9	.89	.89	for	for
38-38.9	.91	.91	oil	oil
39-39.9	.93	.93	36° &	36° &
40 & above	.95	.95	above.	above.

Pecos County, West Texas

(Posted by Humble Aug. 11, 1939 and Shell, Aug. 29 '39)

Pecos $0.78
Yates Shallow Pool (Shell only) ..... .65

(a) Effective Aug. 11, 1939 by Humble; Shell Oil, Aug. 29, 1939; by Magnolia Petroleum and The Texas Co., Oct. 12, 1938; Stanolind, Aug. 29, 1939; Sinclair Prairie, Aug. 31, 1939.

(b) Magnolia posts $0.63 for below 25; $0.65 for 25-25.9. Stanolind posts below 26 at $0.67.

(c) Humble posts, in full, the schedule shown in above table. Sinclair Prairie posts below 25 at $0.63; rest of schedule same as table above.

Note: Humble's postings are in these counties: Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler and Yoakum, West Texas; and Lea county, N. Mex.; Magnolia's are in Crane, Glasscock, Howard, Mitchell, Upton and Winkler; Shell, in Crane, Ector, Glasscock, Howard, Upton, Winkler, Lea; Stanolind in Hendrick and Henderson field, Winkler county; Texas Co. in Ward, Winkler and Lea.

Posted by Continental Oil Co.

(Effective Oct. 11, 1938)

Artesia, Jackson and Maljamar pools, New Mexico: gravity schedule beginning with elow 29, at $0.61; 29-29.9, at $0.63; plus 2c differential for each gravity, up to 40 & above, at $0.85.

COLORADO

Posted by Continental Oil Co

(Effective Oct. 11, 1938)

Ft. Collins and Wellington

Below 29	$0.81	35-35.9	$0.95
29-29.9	.83	36-36.9	.97
30-30.9	.85	37-37.9	.99
31-31.9	.87	38-38.9	1.01
32-32.9	.89	39-39.9	1.03
33-33.9	.91	40 & above	1.05
34-34.9	.93		

Canon City and Florence, Col. $0.90

SOUTH AND SOUTHWEST TEXAS

All Shown Below Posted by Humble Oil & Refining Co.

(Effective Aug. 11, 1939)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoboroski crudes $0.96
Van crude $0.93
Conroe $1.27
Alice $1.00
Flour Bluff $1.23

Oct. 12, '38, Magnolia posted $0.96 in Darst Creek; $0.87 in Luling; $0.99 in Lytton Springs; $1.14 for Cleveland, and $1.02 in Hardin, both in Liberty county, Tex.

Oct. 12, '38, The Texas Co. posted $0.96 in Darst Creek.

*Anahuac - Dickinson and Mirando

(Effective Aug. 29, 1939)

Below 20°	$0.74	30-30.9	$1.03
20-20.9	.77	31-31.9	1.05
21-21.9	.80	32-32.9	1.07
22-22.9	.83	33-33.9	1.09
23-23.9	.86	34-34.9	1.11
24-24.9	.89	35-35.9	1.13
25-25.9	.92	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Anahuac - Dickinson includes Cedar Point, Fairbanks, Gillock, Hull, Pierce Junction and Raccoon Bend (shallow sand). Mirando includes Duval, Jim Hogg, Jim Wells, Webb and Zapata counties, Tex. and Heyser and Placedo fields.

(Continued on next page)

CRUDE OIL MARKETS

(*Continued from preceding page*)

Raccoon Bend (Deep sand crude) Tomball and Satsuma
(Effective Aug. 29, 1939)

22-22.9	$0.95	32-32.9	$1.15
23-23.9	.97	33-33.9	1.17
24-24.9	.99	34-34.9	1.19
25-25.9	1.01	35-35.9	1.21
26-26.9	1.03	36-36.9	1.23
27-27.9	1.05	37-37.9	1.25
28-28.9	1.07	38-38.9	1.27
29-29.9	1.09	39-39.9	1.29
30-30.9	1.11	40 & above	1.31
31-31.9	1.13		

Dec. 3, 1938, Magnolia met above price and gravity schedule in Tomball. Effective Aug. 29, 1939, Stanolind met Humble in Tomball, except tha Stanolind's schedule begins with below 29 at $1.07.

***Sweden Crude**
(Effective Aug. 11, 1939)

30-30.9	$0.88	36-36.9	$1.00
31-31.9	.90	37-37.9	1.02
32-32.9	.92	38-38.9	1.04
33-33.9	.94	39-39.9	1.06
34-34.9	.96	40 & above	1.08
35-35.9	.98		

*Includes high gravity crude purchased in Benavides, Tesoro, Fitzsimmons, Kelsey, and Heyser, Tex. fields, by Humble.

LOUISIANA-ARKANSAS
Posted by Standard Oil Co. of Louisiana
(Effective Aug. 14, 1939)

	*N. La. Ark. Sweet	*South La. Sour	*Ark. Sour	Baton Rouge-University
Below 21°	$0.53	$0.60	$0.43	$0.65
21-21.9	for	.62	for	.67
22-22.9	oil	.64	oil	.69
23-23.9	Below	.66	Below	.71
24-24.9	25°.	.68	25.°	.73
25-25.9	.55	.70	.45	.75
26-26.9	.57	.72	.47	.77
27-27.9	.59	.74	.49	.79
28-28.9	.61	.76	.51	.81
29-29.9	.63	.78	.53	.83
30-30.9	.65	.80	.55	.85
31-31.9	.67	.82	.57	.87
32-32.9	.69	.84	.59	.89
33-33.9	.71	.86	.61	.91
34-34.9	.73	.88	.63	.93
35-35.9	.75	.90	.65	.95
36-36.9	.77	.92	.67	.97
37-37.9	.79	.94	.69	.99
38-38.9	.81	.96	.71	1.01
39-39.9	.83	.98	.73	1.03
40 & above	.85	1.00	.75	1.05

*North Louisiana-Arkansas sweet includes Homer, Caddo, De Soto, Sabine, Haynesville, Bunkie, Rodessa, Cotton Valley, Eola and Sligo, La. and Miller County, Ark. South Louisiana Sour includes Choctaw, Darrow, North Crowley, Roanoke and St. Martinville. Arkansas Sour includes Buchner, Magnolia, and Village pools.

(Effective Aug. 14, 1939)

Smackover, Ark.	$0.60
Cotton Valley Distillate	$1.00

Posted by Arkansas Fuel Oil Corp.
(Effective Jan. 28, 1937)

Urania, La.	$1.02

Posted by Continental Oil Co.
(Effective Oct. 11, 1938)

Tepetate and Ville Platte, La.	$1.03

(Effective Jan. 1, 1939)

Abbeville, La.			
Below 36	$0.92	38-38.9	$0.98
36-36.9	.94	39-39.9	1.00
37-37.9	.96	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.
(Effective July 17, 1939)

Allison area, Shreveport field	$0.95

(Effective Aug. 14, 1939)

Cross Lake, La.	$0.95

Lisbon, N. La. (Effective Aug. 1, 1939)			
27-27.9	$0.56	32-32.9	$0.66
28-28.9	.58	33-33.9	.68
29-29.9	.60	34-34.9	.70
30-30.9	.62	35 & above	.72
31-31.9	.64		

Note: S. O. Louisiana prices in all La.-Ark. fields, effective Oct. 5, 1938, are on 100% tank table basis.

GULF COASTAL FIELDS
(Posted by Companies shown)

	*Sinclair and *Humble	*Stanolind (Aug. 29, '39)	Shell (Aug. 29 '39)
Below 20	$0.79	....	(c)$0.71
20-20.9	.82	(b)$0.82	.81
21-21.9	.85	.85	.83
22-22.9	.88	.88	.86
23-23.9	.91	.91	.89
24-24.9	.94	.94	.92
25-25.9	.97	.97	.95
26-26.9	1.00	1.00	.98
27-27.9	1.02	1.02	1.00
28-28.9	1.04	1.04	1.02
29-29.9	1.06	1.06	1.04
30-30.9	1.08	1.08	1.06
31-31.9	1.10	1.10	1.08
32-32.9	1.12	1.12	1.10
33-33.9	1.14	1.14	1.12
34-34.9	1.16	1.16	1.14
35-35.9	1.18	1.18	for oil
36-36.9	1.20	1.20	34° &
37-37.9	1.22	1.22	above.
38-38.9	1.24	1.24	....
39-39.9	1.26	1.26	....
40 & above	1.28	1.28	....

Note: Humble's prices apply in these Texas fields: Amelia, Clear Lake, Goose Creek, Greta, Mykawa, O'Connor-McFadden, Plymouth, Raccoon Bend (deep sand), Refugio, Saxet, Sugarland, Thompsons, Tom O'Connor, Webster and West Columbia. Stanolind's prices apply in Clinton, Hastings, High Island, South Houston, Spindletop.

*Effective Aug. 11, 1939 by Humble; Aug. 31, 1939 by Sinclair Prairie.

(b) $0.82 for Below 21.

(c) Shell posts these prices in Iowa district, Black Bayou and White Castle, La.; prices in Iowa district have 2 lower grades: below 18, at $0.75, 18-18.9, $0.77; and 19-19.9, is $0.79.

Posted by Shell Oil Co., Inc.
(Effective Aug. 29, 1939)

Gibson field, Terreborne Parish, La.	$1.04

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.
(Effective Oct. 11, 1938)

Salt Creek, (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas, ranging from $0.86 to $1.10, which see under Mid-Continent crude on previous page.

Tensleep, Salt Creek field	$0.646
Ilos, heavy	0.92
Elk Basin, light	0.90
Grass Creek, light	0.90
Frannie light	0.55
Grass Creek, heavy	0.40
Hamilton Dome, Wyo.	0.35
Frannie heavy	0.42

Posted by Ohio Oil Co.
(Effective Oct. 11, 1938)

Elk Basin, Wyo.	$0.90
Grass Creek, light	0.90
Rock Creek	1.00
Lance Creek	0.77
Dry Creek, Mont.	0.92

(Effective May 1, 1938)

Grass Creek, heavy	$0.50

(Effective Nov. 16, 1937)

Sunburst, Mont.	$0.90

Posted by Continental Oil Co.
(Effective Oct. 11, 1938)

Cat Creek, Mont.	$1.10
Big Muddy, Wyo.	0.98
Lance Creek, Wyo.	0.77

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 26, 1936, except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front Signal Hill (Long Beach) effective March 7, 1936; Elk Hills effective June 22, 1936; Lakeview Area, Aug. 19, 1936; El Segundo and Wilmington, Oct. 15, 1937; Greeley-Canal, July 9, 1938; Montebello, Aug. 11, 1939.

Gravity	Signal Hill (Long Beach) El Segundo †Wilmington	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills Midway-Sunset Lakeview Area	Greeley-Canal (Kern County)	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria Val. (Union Oil, Sept. 1 '39)
13-13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
14-14.9	$0.80	$0.79	$0.74	$0.78	$0.79	$0.80	$0.76	....	....	$0.80	$0.76	$0.76	$0.77	$0.78	....	$0.70	....	$0.70	$0.70	....	$0.70	$0.70	....	$0.42
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.44
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.45
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.46
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	....	.71	.71	.70	
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	....	.78	.72	.70	
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	....	.82	.74	.70	
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	....	.86	.78	.72	
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	....	.90	.82	.76	
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	....	.94	.86	.79	
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.02	.95	....	.89	.99	.86	....	.88	1.01	1.01	....	.98	.90	.83	
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.93	1.03	.90	....	.91	1.06	1.06	....	1.02	....	....	
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.97	1.06	.95	....	.95	1.10	1.10	$0.91	1.06	....	....	
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	1.01	1.10	.99	....	.99	1.15	1.15	.94	1.10	....	....	
29-29.9	1.17	1.15	.93	1.18	1.18	....	1.17	1.12	.93	....	1.09	....	1.06	1.14	1.03	....	1.02	1.20	1.20	.98	1.14	....	....	
30-30.9	1.21	1.19	.95	1.22	1.21	....	1.21	1.17	.95	....	....	....	1.10	1.17	1.08	....	1.06	1.25	1.25	1.02	1.18	....	....	
31-31.9					1.24	....	1.24	1.22	.97	....	....	....	1.14	1.21	1.12	....	1.09	1.29	1.29	1.06				
32-32.9		*Elwood Terrace		....	1.27	....	1.27	1.27	1.00	....	....	....	1.18	1.25	1.16	....	1.13	1.34	1.34	1.09	Kettleman Hills			
33-33.9	....	1.28	....	....	....	F.O.B. Standard Pipe Line	....	1.32	....	....	....	....	1.22	1.28	1.20	....	1.17	1.38	1.38	1.13	....	1.19	....	
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.26	1.32	1.25	....	1.20	....	....	1.17	....	1.23	....	
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.30	....	1.29	....	....	....	....	1.20	....	1.27	....	
36-36.9	....	1.39	....	....	....		....	1.46	....	....	....	....	1.34	....	1.33	....	....	....	....	1.24	....	1.31	....	
37-37.9	....	1.43	....	....	....		....	1.51	....	....	....	....	1.38	....	1.37	....	....	....	....	1.28	....	1.35	....	
38-38.9	....	....	....	....	....		....	1.56	....	....	....	....	1.42	....	1.42	....	....	....	....	1.31	....	1.39	....	
39-39.9	....	....	....	....	....		....	1.61	....	....	....	....	1.47	....	....	....	....	....	....	1.35	....	1.43	....	
40-40.9	....	....	....	....	....		....	1.66	....	....	....	....	1.51	....	....	....	....	....	....	1.39	....	....	....	
41-41.9	....	....	....	....	....		....	....	....	....	....	....	1.55	....	....	....	....	....	....	1.43	....	....	....	
42-42.9	....	....	....	....	....		....	....	....	....	....	....	1.59	....	....	....	....	....	....	1.46	....	....	....	
43-43.9	....	....	....	....	....		....	....	....	....	....	....	1.63	....	....	....	....	....	....	1.50	....	....	....	
44-44.9	....	....	....	....	....		....	....	....	....	....	....	1.67	....	....	....	....	....	....	1.54	....	....	....	
45-45.9	....	....	....	....	....		....	....	....	....	....	....	1.71	....	....	....	....	....	....	1.57	....	....	....	
46-46.9	....	....	....	....	....		....	....	....	....	....	....	1.75	....	....	....	....	....	....	1.61	....	....	....	
47-47.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.65	....	....	....	
48-48.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.68	....	....	....	

*F. o. b. ship.
‡Also McKittrick, Kern River. Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted.
†Wilmington prices differ on gravities below 18.9. Prices are: 14-16.9, $0.75; 17-17.9, $0.77; and 18-18.9, $0.79; rest of schedule same as Signal Hill.

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the tense situation abroad. Supplies of low octane gasoline particularly were hard to obtain, resellers said. Unconfirmed reports of occasional price shading on leaded gasoline were encountered. Quotations reported for 70-72 octane leaded and unleaded gasoline, however, were unchanged at 4.875 to 5.375 cents.

Fuel Oil

CHICAGO, Sept. 5.—Some resellers in Chicago reported slight spurt in domestic burner fuel demand preparatory to fall heating requirements last week. Supplies were being ordered out against contracts and in some cases at advanced prices, it was said. No changes in spot quotations were reported during the week. Michigan refiners also reported pick-up in burner fuel demand.

Consumer demand for industrial fuels continued good throughout the week and no changes in quotations were reported. Prices reported for No. 6 fuel, f.o.b. Group 3, ranged from $0.45 to $0.65 per barrel.

* * *

NEW YORK, Sept. 5.—Eastern seaboard fuel oil markets during the past week were quiet as interest centered on foreign developments and their possible effect on the oil industry generally. No changes in prices were reported, and movement was said to be routine. With conditions at the Gulf still highly unsettled, and a general conflict looming abroad, traders said they were engaged in "watchful waiting" pending an indication of "which way the wind was blowing."

* * *

TULSA, Sept. 5.—Little activity was reported last week in Mid-Continent fuel oil markets, although the oil well shutdown was said to have resulted in a slightly better statistical position for some of the lighter grades. Quotations for the No. 1 prime white grade were reported 0.125 cent above those of the previous week. No open spot sales were reported.

Heavy fuel oil situation was improved noticeably during the oil well shut-down as refiners used the heavier grades for cracking stock. No changes in quotatons were reported.

Wax

NEW YORK, Sept. 5. — Advances of 0.05 cent per pound in their quotations for all grades of crude scale wax at New Orleans and New York were reported by some refiners the past week. Demand for the scale grades was said to be heavier than for some time past. Prices for fully refined waxes were reported unchanged.

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All advertisements carried on this page are payable in advance.

"STRICTLY PERSONAL"

Clarence T. Smith, Flora, Ill. has been elected to succeed **Ray Hose,** Springfield, as president of the Petroleum Association of Illinois. Others elected were **Samuel D. Jarvis,** Decatur, vice-president and **A. D. Hovey,** secretary-treasurer.

* * *

Hold your breath while you read this one, but we have it on good authority that **Clarence Ludton,** Valvoline Oil Co. vice-president of Butler, Pa., pulled in a 651-pound Giant Blue-Fin Tuna off the coast of Nova Scotia late last month. Clarence says it took him 9 hours and 10 minutes to land the whopper.

* * *

E. A. Cousino, Falley Petroleum Co., Chicago left last week with his wife for a two week trip to Nova Scotia.

* * *

A. R. Matthews, president of the Allied Corporation of Illinois, St. Elmo, Ill. spent a few days in Chicago last week on a business and pleasure trip.

* * *

Transfer of a number of employes from the Tulsa office of the Stanolind Oil & Gas Co. to the Salt Creek, Wyo. offices included **F. N. Chadsey, W. E. Springer, A. A. Thompson, L. R. Boudreaux, Norman Parker, W. W. Luse, J. K. Hardley, William Engle, Leith Pike, Gladys Voorhees, Freda Spessard, Marybyrd Webster** and **Walter Root.**

* * *

Glenn R. Ames, division sales manager for Phillips Petroleum Co. with headquarters in Tulsa, has been named "big boss" of the annual Y.M.C.A. membership roundup to be held in Tulsa the first week in October.

* * *

Roy D. Packard, Cleveland division of Standard of Ohio, has been awarded a Thirty Five Year Service Pin in recognition of his continuous employment with the company for that period. **Benjamin H. Bice** of the company's Solar refinery, and **Leslie D. Ross,** of the Dayton division, were awarded Thirty Year and Twenty Five Year Pins, respectively.

* * *

Patrica and **Ellen Vickers,** daughters of **Mr.** and **Mrs. Jack Vickers** of Wichita, Kan., and their aunt, Mrs. Irene Vickers Baker, were passengers on the "S. S. Washington" which reached New York from Europe shortly before the outbreak of the war.

* * *

John McCuise, chairman of the Kansas department of revenue and taxation, and **Bert Mitchner,** director, called a meeting of tax authorities recently to iron out any irregularities in the regulations that have been placed in effect since a change in state's tax law. A committee was appointed to work with the state officials. The committee personnel is composed of Judge **W. W. Brown,** Sinclair Refining Co.; **C. G. Kustner,** Standard Oil Co. of Indiana; **E. P. Priene,** Skelly Oil Co.; **L. M. Woodward,** Derby Oil Co.; **John Wishered** and **C. E. Holmes,** secretary of the Kansas Oil Men's Assn.

* * *

Robert S. King, founder of the Refiners Oil Co. at Dayton, O. and former president of the Pennzoil Co., has been elected executive vice-president and director of the Philip Carey Manufacturing Co. of Cincinnati. Mr. King was connected with the oil industry for nearly 30 years, starting as an independent producer in Oklahoma in 1909. He formed the State Oil Co. at Lincoln, Neb. and the Refiners Oil Co. in 1915, selling the latter company to the Standard of Ohio in 1931. He was president of Pennzoil for about two years, from 1933 to 1935.

* * *

John H. Hay, manager of the Billings, Mont. sales division of Standard Oil Co. of Indiana has been appointed vice-president in charge of sales of Standard Oil Co. of Nebraska, recently acquired by the Indiana company. **H. W. Pierpont,** president of the Nebraska company will remain in that position it was announced.

Mr. Hay was born in Minnesota and joined the Indiana company at Fargo, N. D. in 1913 as a salesman. In 1923 he was advanced to sales manager at Minot, N. D. and in 1926 to assistant district manager at Huron, N. D. and later assistant manager at Minot. In 1931 he was transferred to Billings as manager.

D. F. Benton, manager at Denver, has been made manager of Indiana Standard's Rocky Mountain division, and will have charge of operations in Colorado, Wyoming and Montana. Mr. Benton joined the company in 1923 as a salesman at Duluth, Minn. After being transferred to the sales force of the Midwest Refining Co. at Denver, he became assistant manager in 1931 and Denver manager in 1934.

* * *

E. A. Tessien, formerly sales promoter at Billings has been made assistant manager in charge of the Montana organization. He joined the company at a service station in Mankato, Minn., and in 1924 became a general salesman. He was transferred to Kansas City in 1929, and to Billings in 1938.

J. P. Gregg, Jr., formerly sales promoter at Mankato has been transferred to Denver as an assistant manager. He also came to the company through a service station at Charles City, Iowa. From a supervisory position in the Mason City, Ia., division office, he was transferred to Billings in 1932 as station superintendent. Later he was advanced to sales promoter in Billings and transferred to Mankato in 1937.

* * *

Thomas F. J. Quigley, for the past 19 years with Pure Oil Co., has formed the Quigley Oil Co., with offices at 42 Broadway, New York City and 44 Court Street, Brooklyn, New York.

* * *

George R. Hopkins, assistant chief economist of the Bureau of Mines' Petroleum Economics Division, economized on his golf swings last week to come out on top in an all-club tourney at Kenwood Country Club. "Hop" is now the proud possessor of the Diffenbaugh Trophy, presented by the club pro. Some of the doubters may require that the cup be brought to the office for proof.

* * *

J. H. Neville, salesman in the central division of Barnsdall Refining Co., is in serious condition in an Omaha, Neb., hospital from injuries, including a broken pelvic bone, received in an automobile wreck three miles west of Clarinda, Iowa.

* * *

Andrew H. Irelan has joined Alliance Oil Corp. of New York as vice-president, and **Frederick E. Nash, Jr.,** has been appointed treasurer, **L. C. Quackenbush,** president, has announced. Mr. Irelan recently resigned as manager of the lubricant department of Cities Service Oil Co. of Pennsylvania. A graduate of Purdue University, he joined Cities Service organization at Toledo in 1919. He was transferred to Crew Levick Co. at Philadelphia in 1920, returning to the Ohio Cities Service company in 1922. In 1925 he was again transferred to the Crew Levick company, which latter was merged into the Cities Service Co. of Pennsylvania. Mr. Nash joined the accounting firm of Peat, Marwick, Mirchell & Co. in 1932 after his graduation from Princeton. He resigned from this concern to go with Alliance.

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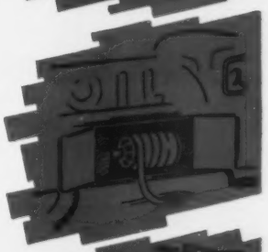

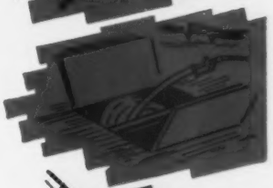

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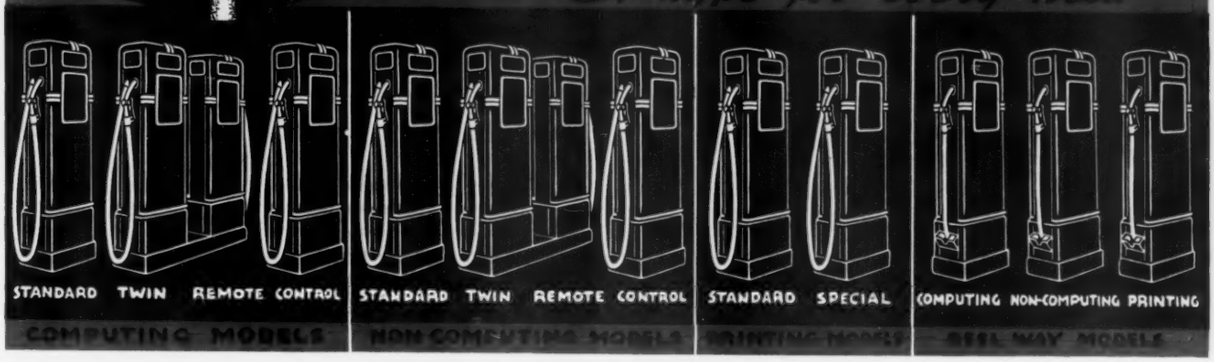
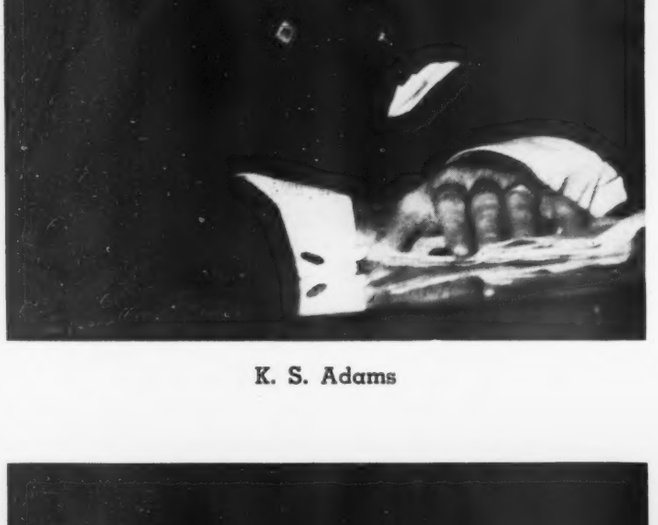


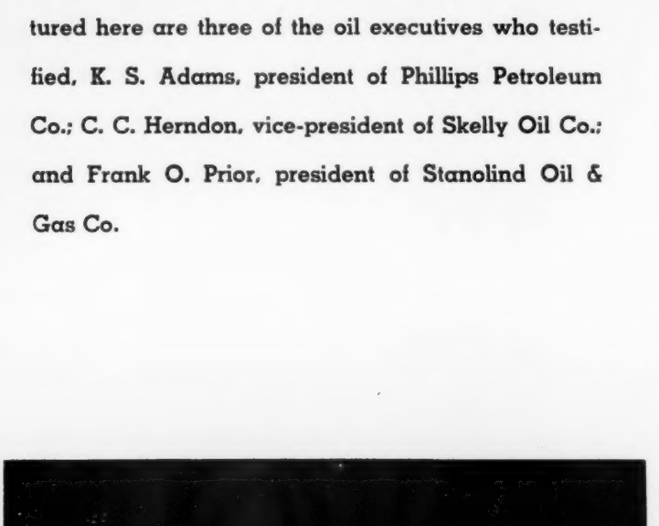
K. S. Adams

Texas Holds Oil Economics Rodeo

Executives of a dozen larger oil companies testified at Austin at the economics hearing held Aug. 28 by the Texas Railroad Commission, giving detailed data on their policies and stocks positions (NPN covered this in its August 30th issue). Pictured here are three of the oil executives who testified, K. S. Adams, president of Phillips Petroleum Co.; C. C. Herndon, vice-president of Skelly Oil Co.; and Frank O. Prior, president of Stanolind Oil & Gas Co.



Frank O. Prior



C. C. Herndon